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Vol 4 No 51

THIS WEEK

MCODER III

MCoder III special offer

Clive's wafer project cash on the cards

SIR CLIVE Sinclair has claimed he is close to clinching a deal with a venture capital company for over £5m to help set up Sinclair's wafer scale integration company

The £5m falls far short of the £50m Sinclair was seeking last summer, just before its well-publicised financial crisis It has now had to plan to sub-contract out initial manufacturing of the silicon wafers. Production 'in-house' will not begin for another three years, when a substantial sum, probably about £40m would need to be raised

Sir Clive has also publicly announced that he hopes the wafer scale chips to be in production and used in Sinclair's portable computer project by 1987

A Sinclair spokesman said, "I cannot confirm whether or not this deal will be going ahead it is still in negotiation Nor would it be fair to name the venture capital company "

Sinclair Research is also still looking for around £10m

continued on page 4 ▶

MELBOURNE House's Rock & Wrestle, *now due out on the C64 January 7, at £9 95 A Spectrum (£8 95) and Amstrad version (£9 95) are due out at the end of January*

ROCK'N WRESTLE

MICRO MAGIC



Find out if you have won an Amstred 6128 this week or at least some special *Popular Computing Weekly* cassette labels

Enter your Micro Magic number into our computer program on page 33

Commodore's Sound Exponder Module reviewed

INSIDE
Readers' Poll
Vote for the best and worst of 1985

INSIDE ❯ CHRISTMAS CRACKERS – BEST NEW SOFTWARE SEE P11 ❯


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CONTENTS

Vol 4 No 51

EDITORIAL

People talk of this Christmas being 'crucial' to the home computer industry, just as these same people talked of this year being crucial.

When it comes to micros, it seems everything either has to be astoundingly successful or appallingly terrible - doom-laden adjectives abound. Obviously, whilst poor sales at Christmas of micros and software will be a pretty bad thing the overall effect this might have on the industry is not, in fact, the do or die affair it is being painted.

Last Christmas is still a useful point of comparison for this one. Then the absurd overstocking of computers, which led more or less directly to the troubles of Acorn, Sinclair and, to a lesser extent, Commodore UK, should not be repeated.

The most significant point of difference is that the character of the industry has changed - largely for the better, and some hard lessons appear to have been learnt. Not only are the companies that have survived the harsh times intrinsically stronger and better run (if also larger and less charmingly idiosyncratic) but last year's lessons have led to more conservative estimates of sales and cash flow.

Cautious realism pervades the industry as never before. Alan Sugar's Amstrad may have taught the industry a good few lessons on how to do it, and stock levels and expectations are cooler.

With only a modicum of luck there shouldn't be too many unpleasant surprises this Christmas; in fact there is some early evidence to show that there may even be a few pleasant surprises.

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How to submit articles Articles which are submitted for publication should not be more than 3000 words long. The articles, and any accompanying programs, should be original. It is breaking the law of copyright to copy programs out of other magazines and submit them here — so please do not be tempted. **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish, although we will always try our best to make sure programs work.

Computer Trade Association Magazine of the Year

Atari admits to delay on 260ST

ATARI has now admitted that its 260ST machine will not now appear until next year. The company had earlier hoped it might appear before the end of 1985

Rob Harding, sales and marketing manager of Atari UK, said the long-awaited machine should arrive "early in the New Year"

The equally long-awaited hard disc for the ST series will be launched around the same time. Reasons for the delay are unknown – Atari had several working hard discs on its Comdex stand in Las Vegas in November The price has also still to be decided – Harding says it will be "competitively priced" which means that it should appear for less than £1,200

The other major peripheral still on the waiting list is the CD-Rom laser-driven disc system A prototype was shown as far back as June at CES in Chicago when Atari said it hoped to launch the product by the end of 1985

Harding now says there are no immediate plans to release the product as the company believes the technology is too expensive

However, there is brighter news on software Atari announced more than 100 packages at Comdex and Harding says they are becoming available now

Happy families for Amstrad owners

DAVID Computer Software (DCS) has announced a genealogy package for all Amstad machines – both the CPC range and the 8256.

The family tree database program can store ancestral details under name, sex, date of birth, place of birth, baptism, death or burial, can file under marriages, children, occupations and so on. It will also cope with most usual database features with search, printer dump, incomplete data matches etc.

The program, called *Genny*, costs £35 on disc only, so 464 owners need to have a drive Details from DCS at 38 South Parade, Bramhall, Stockport (061-439 4841)

Printer dump for Apple II

APPLE Dumpings is a new software program from D-Soft, which enables owners of Apple II and III series machines to print graphic screen dumps on any type of printer, including daisywheels

Hi-res graphics, partial or complete text screens or side ways print can all be successfully dumped. The package costs £19 95 from D-Soft at 60 Chancellors Road, London W6 9RS (01-748 9202)

Graphics with Dumpings

CPC 6128 arrival in States held up

THE US launch of Amstrad's CPC 6128 computer has suffered heavy delays, and is not yet on sale

The machine was jointly previewed by Amstrad and Indescomp at last summer's CES in Chicago At the time, it was due to go on sale around September in the US.

"There have been heavy delays on it because of FCC tests," said Loren Willey, Indescomp US's marketing director "Not only the computers but the peripherals that come with it had to be separately tested, and then the full kit when put together had to be ratified.

"However, it has now passed all the tests and is ready for shipment" Indescomp expects the 6128 to be available in the US in volume by March.

It is being targetted as a cheap business machine in the States, and is being bundled with *Wordstar, Mail Merge* and *Multiplan* at $899 for the colour monitor version, and $499 for the monochrome model without the software

Lucasfilms latest

THE LATEST game designed by Lucasfilms *Koronis Rift*, is due out in Britain from Activision at the beginning of January

The game, graphically similar to its stablemate *Rescue on Fractalus*, casts the player as 'techno-scavenger', making a living by searching for abandoned technological systems scattered around deserted parts of the galaxy

It will be available for the Atari XE/XL series on disc only at £14 99 and the on cassette at £9 99 and disc at £14 99

Sinclair's wafers

◂ continued from page 1

in external finance for working capital and to help pay for new products, such as the 'Pandora' portable and successors to the QL and Spectrum. Sir Clive hopes that would-be investors will be organisations and wealthy individuals.

However, it looks as though Robb Wilmot, who joined forces with Sir Clive to raise finance for the semiconductor scheme earlier this year, has now been ruled out, despite the fact the he has recently resigned his post as chairman of ICL to concentrate on his own enterprises

Microsoft Logo to enter schools market

MICROSOFT, the company more widely known for its own version of Basic and professional packages, has, somewhat surprisingly launched a package designed for the schools market

The package in question is Logo, which runs only on Apple's Macintosh micro

However, the Macintosh is nowhere near as commonly used in schools and colleges as Acorn or Research Machines' micros, for instance A Microsoft spokesman said. "There are around 200 educational establishments equipped with Macs at the moment" And Apple added "Over the past year the Mac has been doing incredibly well in schools, colleges and polytechnics."

Microsoft Logo

However, Microsoft admits that the market is still a small one and it is looking for side benefits to compensate for initial sales levels Among these are the added impetus to Apple's Mac, and the hope that Microsoft-loving students will turn into Microsoft-loving business users

MS Logo is a full implementation of the language offering data-handling as well as the familiar turtle graphics It was written for Microsoft by Logo Computer Systems Inc and employs the full power of the Mac's graphics, windows and variety of typefaces

Firebird lines up twenty firms for US invasion

ULTIMATE'S titles *Sabre Wulf* and *Underwurlde* have already been lined up by Firebird for export to the US under the Firebird Licensees label (see *Popular Computing Weekly*, November 14) The British Telecom division already has Commodore 64 rights to these two titles in Britain

Firebird's John Fletcher, who is co-ordinating the move into the States from the UK, said, "We are also talking to CDS, Virgin, Melbourne House, Novagen, Odin, Shards, PSS and Softechnics (the division of Softek concentrating on 68000-based machines) with a view to marketing their titles in the US We are holding discussions with about 30 companies in all."

Firebird Licensees has taken a stand at January's CES show in Las Vegas, where it will display both its own programs and also those from third parties, for sale in the US from early next year

Metacomco win award

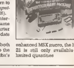
METACOMCO, the Bristol company which wrote the Amiga's operating system, AmigaDos, and a number of languages for the QL, has won an export award. The company was nominated Supreme Champion in the 1985 South West Export Awards, which are sponsored by the Institute of Export, the British Overseas Trade Board, the Bristol Chamber of Cmmerce, Midland Bank and HTV.

MSX price cut again

TOSHIBA has reduced the price of its HX 10 MSX computer again, this time down to £89 99 (see *Popular Computing Weekly*, September 26).

The new £90 HX-10 Entertainment Package is the same as the previous £90 starter pack, but substitutes the data recorder for a joystick

The two packages will both be available through into the New Year while Toshiba's enhanced MSX micro, the HX-22 is still only available in limited quantities



Soviet style networks

IN AN anusually open article the Soviet newspaper *Pravda* has described the problems within the Soviet Union of linking personal computers to central terminals

Pravda says that 30 cities in the Russian republics, the largest of the Union's 16 republics, now have organisations linked to databases

Paradoxically, the report continues, authorities have catered only for large-scale systems with central networks, but have 'forgotten' to make available devices for small subscribers.

The Soviet leader Mikhail Gorbachev has called for a major program to bring the country's communication systems more up to date

Letters

Pen-pal Service

I run a pen pal service for Spectrum users and would like anyone who wants a pen pal to write.

They should tell me a few details about themselves and the sort of person they want to write to, and send them to me with an SAE. I'll get in touch as soon as I can. Also, if there are any females out there – please write, as half the replies are asking for you.

Even if you don't own a Spectrum, write anyway and I'll see what I can do

Anna Peters
20A Esmond Rd
London W4 1JQ

An enigma

In *Popular* 5-11 December, John Minson's review of *Swords and Sorcery* fails to give credit where credit's due. Since 1982, adventure game commentators have expressed the opinion that a full role playing game would be impossible within the constraints of a home micro, until the arrival of cheap(ish) disc drives and/or expanded memories

It is ironic that PSS has achieved the impossible just as this hardware is becoming a reality. Surely PSS can be forgiven for having "taken a little longer"

The limitations of the game are those imposed by the memory available and more sophisticated games can only be achieved from disc or on the 128K machines. These will, of course, come close to John Minson's expectations but will be denied to those of us who cannot spend £400

The enigma of the game is that nothing is fully explained and you have to find out for yourself what you are supposed to do. This is why your reviewer 'was unsure what was going on'. He was meant to be!

The conversation routines are fascinating but you cannot just barge into a room and expect to engage the inhabitant in polite chatter

John Minson makes no mention of the magic which plays such an important role in the game nor of the risks involving the meagre supply of food, which, in true 'table-top' role playing games, will thwart your bravest efforts if you do not plan your strategy very carefully

I cannot see how he fails to 'empathise' with a character to which he has given an identity by naming it and then training it

Swords and *Sorcery* combines strategy, combat, and puzzle-adventure and forms the basis of a further three levels of 'environments'; as such it represents better value for money than anything else in 1985

However it does rely on the player supplying one thing which John Minson has clearly failed to do – imagination

Hugh T Walker
7 Burnet Avenue
Burpham

John Minson replies: While I recognise PSS's persistence in chasing the micro role-playing dream, *Swords* and *Sorcery* just didn't work for me

My comment on not being sure of what was going on was a criticism of the confusing display and yes, I would expect to have to draw a map, as I always did when I was an r.p.g player.

It was not any lack of imagination that led to the review, but *Swords and Sorcery's* failure to stimulate it.

MICRO MAGIC

Congratulations to Ian Brunage of Luton, C M I'Anson of Liverpool and Ron Ebbrell (pictured below) of The Wirral, who have all won Amstrad CPC 6128s in our Micro Magic competition so far

This does mean, however, that there are still nine 6128s to win, and that nine people out there somewhere have Amstrad winning numbers, so keep typing each week's listing in.

All prizes, including cassette labels and extra cards with documentation, will be despatched shortly

In agreement

I have never found myself agreeing 100% with a magazine before – not, that is, until I read John Minson's review of *Swords and Sorcery* in the 5-11 December issue

I find it hard to believe that PSS can claim that its program has 'stunning 3D graphic animation simulating video disc games'. The graphics are 1983 standard and have about as much atmosphere as the moon. I'm sure that the majority of people buying this program will have played role playing games and will realise it is impossible to capture this kind of experience in a computer game

Richard Hewison
Luton

Phrase composer

While attempting to compose a phrase for your Readers' Chart competition I got fed up at having to write

ELITE HYPER SPORTS
WAY OF THE EXPLODING FIST

every time so I wrote this small program for the Spectrum to do the job for me

It inputs the game titles phrase and then asks for a word. Then it scans through the phrase deleting letters in the word and printing both up. Should a letter in a word not be contained in the titles phrase, the phrase is restored to the way it was before that word.

```
5 POKE 23658,8 : LET A = ∅ : LET W$ = ""
10 INPUT "input the top three titles-", A$
11 LET C$ = A$
30 INPUT "Word to remove from phrase-", B$ 35 IF B$ = "QUIT" THEN LET A$ = Z$ : LET W$ = " " : CLS : GOTO 20 40 FOR F=1 TO LEN B$ FOR G=1 TO LEN A$ 90 F B$ (F) = C$ (G) THEN LET C$ (G) = " " LET A=1: GO TO 80 26 NECT G IF A=∅ AND B$(F) <> " " THEN PRINT AT 8,∅, "LETTER", B$(F), "Not Found" BEEP 2,4. PRINT AT 8,∅; "(18 spaces)" GOTO 15 85 LET A=∅ NEXT F 86 LEY A$ = C$ 100 LET W$ = W$ + B$ PRUNT AT 4,∅; "Your phrase", AT 5,∅ W$ LET A=∅: GOTO 20
```

Robert Burgess
Rotherham

Roller price

A few weeks ago you carried a review of the IBICO LTR-1 printer in which you state the price of the ink roller for the LTR-1 is £2.50. I phoned Saga Systems in Woking this morning to find out that they charge £4.95

I have had one of these superb little printers for a while and I always buy my ink rollers from IBICO direct. They charge £3.00 + VAT which is a lot less than Saga.

David Cummings
London W1

Reliable QL

I have had my QL for 18 months. It is being used at least three hours a week keeping records and accounts for my farm. Never have I needed to use the backups which I always make. The Microdrives are reliable

Callum Burnett
Aberdeenshire

Amstrad Club

We are a newly formed club in Manchester dealing mainly with Amstrad computers, called the Amstrad North West Users Club. We meet at the Eileen Wilkinson School on Hyde Road, Manchester, Wednesday evenings, 7.00-9.00pm. Any interested readers should contact me.

P Clarke
Secretary, ANWUC
41 Millwall Close
Gorton
Manchester

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Popular's Xmas Crackers

Let's face, it, Christmas presents are pretty dodgy things. Aunties and Uncles, even parents (who might be expected to know better), are quite capable of making the most horrendous lapses of judgement and buying the most unspeakable things in the belief that it was 'just what you wanted'. I remember, for example, that one infamous auntie, who, on being told that I liked rock music, bought me *Heavy Junction Plays the Bits of Deep Purple*.

When it comes to computer programs, *the* situation is fraught with danger. I mean, suppose you're a noted Dragon basher much given to wielding mighty power swords of Tharg and somebody lovingly presents you with *Travels with the Mr Men* – try maintaining a fixed grateful smile then . . .

With these things in mind we present *the Popular* Christmas Crackers – hot off the press games you may not have already got that you can reliably instruct a relative to buy. Don't leave things to chance, study the lists below and issue precise details to potential present buyers. Then they have no excuse.

Incidentally, an Ad is a mighty axe wielder as Arc is fond of jumpy-runny-jumpy a bit more, blast dodge games, and Ut is for those who like really useful practical sorts of things.

Spectrum

Sweevo's World

The latest program from Gargoyle Games is a departure from its previous devious graphic adventures so it may not be suitable for a purist Ad, but an Arc should bounce around gleefully if finding this one under the synthetic tree.

It owes a lot to *Alien 8* and *Knight Lore* in its 3D presentation and 'how the hell do I get from there to there' puzzles but goes beyond those games in both wackiness and technical brilliance. It features an inept robot who has to move around dozens of different screens collecting objects like old tin cans and boots and sneaking up on occasional geese. Getting through the screens involves not only putting the tin cans to good use and ascending on little platforms, but also dodging pineapples, a nasty little girl and, most horrendous of all, giant fingers that shoot up through the floor to poke you. All this in high res graphics and with the most ludicrous scoring system ever devised - what more could you want?

Price £7.95 *Suppliers* Should be around at both computer specialists and chain stores. If not: Gargoyle Games, 74 King Street, Dudley, West Midlands DY2 8QB

Gyroscope

Another one for Arc fans. Whatever Melbourne House says, this game is, in fact, a variant on the arcade classic *Marble Madness*, which requires control of a gyroscope that is, if anything, even more difficult to keep in check than a marble.

The game is all down to timing and split second reactions as you move the spinning gyroscope across a geometric landscape, down channels, across tiny bridges over chasms, over slippery bits and sticky bits towards a goal. The whole thing is done on a strict time limit and is, to begin with, fiendishly difficult.

Graphics are excellent as is the sound (on a Spectrum!) and the logic to recreate the sense of centrifugal force, particularly when the gyroscope starts to run out of energy, cleverly realised.

Price £7.95 *Suppliers* Specialists and chain stores, if not: Melbourne House Castle Yard House, Castle Yard, Richmond

The Art Studio

Certainly a Ut but all Arc and Ad fans should be quite happy with it. It is certainly the best graphics program ever designed for the Spectrum and you really don't need to have any great artistic talent to produce professional looking results.

It goes beyond the usual features of *Line*, *Circle*, *Arc*, *Fill* and lets you manipulate areas of design in a variety of ways. You can cut and paste an area defined by a window into another area of screen. Shapes can be distorted by 'forcing' them into a particular window shape and the whole screen can be magnified temporarily for some precision work.

The text font is similarly flexible, a large number of styles are provided and you can easily define your own. Text on screen can be moved around and distorted in exactly the same way as shapes or filled with a large variety of textured shades. The program can also be used with an AMX Mouse or a joystick and all the commands are issued via a user friendly icon and menu system.

Price £14.95 *Suppliers* specialist stores, most chains, if not: Rainbird, Wellington House, Upper St Martin's Lane, London WC2

Think!

An unusual thing, a computerised board game which is both original and not merely computerised for the sake of it. This program also has the virtue of potentially appealing to the whole family, force them to have a go at it and they may even be prepared to give up TV to computer playing rather than watching the *Two Ronnies Christmas Special*.

The game is played on a grid of six by six squares and the task is to complete a row – horizontally, vertically or diagonally across the board. Pieces are placed from the bottom or right hand of the board and as each piece is placed it shunts along any other pieces on the same row or column. The end result is a fantastically devious game which can be played by six year olds easily but which can reach a complexity close to that of Chess.

Nicely presented with the Spectrum playing an extremely good game if you can't find any real people to play against. A surprise perhaps but not a disappointment for any Arc, Ut or Ad fan.

Price £7.95 *Suppliers* Specialists and most chains if not: Ariolasoft, Asphalte House, Palace Street, London SW1E 5HS.

Commodore

The Human Race

This is a classic Arc game of the most fiendish, just one more go, I think there's a bug in this program, this screen is no possibly kind. Over several screens you try to evolve from ape to human, each screen requires much joystick twitching and careful timing as you dodge birds, dinosaurs and sundry other mammals. You also get to negotiate steaming lava pits and generally have a bad time.

There is some marvellous music from Rob Hubbard and best of all the whole thing costs £1.99 so even tiny relatives could afford it.

Price £1.99 *Supplier:* All computer outlets, if not: Mastertronic, Paul St, London EC1

Gyroscope

See the comments on the Spectrum version. This version features a fully scrolling screen and a proper music score (which could have been better)

Price £7.99 *Supplier* As Spectrum version

The Music System

This is a must for Ut fans who also like music. An extremely complex music creation system that takes the Sid chip to new heights and lets you compose music on screen using conventional notation and real time. The Advanced music system extends this to include midi compatibility and score print out and is very worth while

Popular's Xmas Crackers



if you have a Midi equipped music keyboard.
Price £14 95 cassette £17 95 disc. Advanced system disc only £34 95 *Suppliers:* Most specialist shops, some chains also music shops If not Rainbird Wellington House, Upper St Martin's Lane, London WC2

Transformers

A game that looks rather boring from the box shot but is, in fact, quite ingenious Based on the famous toys and television program featuring robots that can transform into cars, the game continues their adventures and so is a good bet for younger Arc fans

The game involves zooming around a futuristic setting of tubes and girders hunting out parts of an Energorm cube You have a team of Transformers to accomplish this task which involves much blasting as you are constantly assaulted by the evil deceptions Not only blasting but some strategy too as you must decide what transformer to use where and when to change from robot to car Nice music and slick scrolling graphics
Price £8 95 *Suppliers* Retail everywhere, if not Ocean, 6 Central Street, Manchester M2 5NS

Little Computer People

Suitable for young fans of every hue as well as a few old ones prepared to suspend cynicism and enter into the spirit of this remarkable program

You get, simply, a little man whom you see 'living' in a three storey house You see him watch TV, play the piano or records, feed himself and scraggy dog, do aerobics and generally live out a full if confined existence You can ask him to do things, pet him, play cards with him and even get him to type you rather strange little messages

The whole thing is beautifully done with a real sense that the little man exists An astounding technical achievement
Price £9 95 *Supplier* Most chains and specialist shops, if not Activision, 15 Harley House, London NW1

Amstrad

Yie Ar Kung Fu

Although any Kung Fu game bears inevitable comparison with *Way of the Exploding Fist*, this is a good choice for Amstrad owners because it shows off the high resolution graphics and animation of which the machine is capable

As with any Kung Fu game the whole thing is about kicking your opponent's brains out as quickly as possible *Yie Ar Kung Fu* features two robed competitors who can kick, punch, slide and tumble under joystick control The computer can prove a fierce competitor but the best fun is had by beating up a friend *Price* £9 95 *Supplier.* Most specialist shops some chains, if not Imagine Software, 6 Central Street, Manchester M2

Sorcery Plus

A superb Arc game with some astoundingly good use of graphics This is the disc based enhanced version of the original Amstrad *Sorcery* with more screens

You control a little wizard whose task it is to release a number of other wizards locked in various dungeons Truly cartoon-like, it remains addictive even after dozens of plays
Price £14 95 *Supplier* Some specialist shops and chains, if not Virgin Games 2-4 Vernon Yard Portobello Road, London W11 2DX

Tasword 6128

Definitely a Ut, this is an extremely professional word processor for a relatively low price It has all the main word processor features like block move, search and replace, left and right justify and so on but is very easy to use with an excellent manual It is also compatible with *Tasword*'s spell check and mail merge programs as well as programs like Campbell System's *Masterfile*
Price £24 95 *Supplier* Mostly specialist shops if not: Tasman Software, Springfield House Hyde Terrace, Leeds LS2

Graphics Adventure Creator

A superb Ut that is also perfectly suitable for all Ads It lets you create very complex adventures with quite detailed illustrations for each location See this week's Adventure Corner for a more detailed look
Price £24 95 *Supplier* Some specialist, some chains, if not, Incentive Software, 54 London St, Reading RG1 4SQ

BBC

Dr Who and the Mines of Terror

This is a major new arcade game for the BBC It features not only the program but also a 16K Eprom which you have to fit internally into the BBC This provides more memory for what is, basically, a souped up platforms and ladders game

In his attempt to destroy an alien mining base the Doctor gets to do lots of running, jumping and scrolling in all directions There are objects to collect and use and puzzles to solve The BBC is fairly starved of good arcade material so all Arc fans will want to have a crack at this one
Price £15 95 (cassette) £19 95 (disc) *Suppliers.* Some specialist shops, if not Micropower, Northwood House, North Street, Leeds LS7 2AA

Revs Four Tracks

Revs is undoubtedly the best car racing game on any micro, certainly in terms of being an accurate simulation of what it's like to race a real machine This package gives your existing *Revs* package an additional four tracks around which to test your nerves and responses Included are Brands Hatch and Donington Park
Price £9 95 *Suppliers* Some specialist computer shops, if not Acornsoft, Fulborn Rd, Cherry Hinton, Cambs

QL

The Pawn

One of the very few games for the QL, that actually look like they are running on a sophisticated 68000 based machine This is a must for Ad fans particularly purists since it is a text adventure of the classic sort. What sets *The Pawn* apart is the great flexibility of the language interpretation. The parser allows for complex sentences in almost conventional English

The above coupled with a large magical kingdom, chock full of magic objects dwarfs and quests makes this heaven for QL adventurers everywhere
Price £19 95 *Supplier* Some specialist shops, if not Sinclair Research, Stanhope Road, Camberley, Surrey GU15 3BR.

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Available from ACE stores everywhere!

Sound Expander

Hardware *Sound Expander Module* **Price** £99 99 **Micro** Commodore 64 **Supplier** Commodore, 1 Huntes Road, Weldon North Ind. Est., Corby, Northants

For £99 99 it's now possible to turn the Commodore 64 into an FM music computer similar to Yamaha's popular CX5 The Sound Expander Module, developed by Music Sales but to be released by Commodore itself, offers eight-note polyphonic playing of present FM sounds, with all the life and realism associated with that technique

The basic software on disc is of the *Play-Along* variety, controlled either from the popular Music Maker clip on keyboard (now available separately for £9 99) or from a full-sized four-octave keyboard of Italian origin, which will also be available separately from Commodore, costing around £89

Basic playing options include normal or single finger chords octave transpose (vital if using the Music Maker keyboard), ensemble on/off for richer sounds limited to four-note polyphony, chord memory, programmable split point, variable border colour and so on You can split the keyboard at any point and will be offered the same selection of sounds for the top and bottom halves of the split

All the sounds are very life-like compared to the 64's SID chip sounds or to conventional voice expanders but there's very little control available except for an overall brightness adjustment

There are 12 preset rhythm accompaniments available, each with their own arrangement of bass and arpeggio patterns and lifelike percussion sounds There's also a "riff machine" option which gives you 12 complex backing patterns in various styles which can be chained together in almost any order – impressive, but of limited use

In February, however, Music Sales hopes to be delivering an FM composer package for eight-voice polyphonic pieces, and the Sound Expander module has a follow-on cartridge port which will eventually accept an input from a touch-responsive keyboard. It's also planned to design a sound creation package

The Sound Expander software has many educational applications, since all notes played are displayed on a music stave with selectable share or flat notation Presumably this display will be further explored in the compositional software

The Sound Expander is an inexpensive way of getting into high-class sound generation, but won't satisfy the more experimental musician for long using only the present software However, by the time you've exhausted its current options, it's likely that many more will have become available On that basis it's logical to give the system a heartfelt thumbs up

Mark Jenkins

Light pen

Hardware *Amicron Microscribe light pen* **Micro** CBM 64 **Price** £29.95 **Supplier** Amicron Ltd, 62-64 Queen's Road, Reading, Berks, 0734 500815.

Light pens have traditionally been popular micro peripherals, because they are relatively inexpensive, fun to use, and allow the user to control the computer without resort to the keyboard. Equally traditionally, they have been unreliable, badly supported by software and mediocre in construction.

The Microscribe light pen is the first product which overcomes most of the disadvantages of its predecessors. Like all light pens, it operates by interacting with the screen timing of the computer; by timing the instant at which the screen refresh triggers the circuit, the light pen software can move a cursor around the display screen, or select subroutines from an icon menu.

The Microscribe cassette software which can be dumped to disc, includes three routines, a hi-res graphic designer, a graphic calculator, and a control program for your own routines. All the software works without any problems and interacts wall with the hardware.

The Microscribe itself is very wall engineered; it has a steel barrel and a long lead, and plugs into the joystick port. On the tip is a sensor, which, when pressed against the screen surface, sends a control signal. This means you do not have to touch the keyboard at all while using the Microscribe.

The *Graffiti* hi-res design software is reasonably powerful. At the bottom of the screen is a row of six boxes, marked *Draw, Inks, Zoom, Eraser, Memory* and *Type*. When "hit" by the pen, each will bring up a further selection of command choices.

Graffiti allows you to draw open or filled circles, squares and other polygons, lines, either single or linked, rays, all coming from a central point, brush patterns, and so on. There are also zoom functions for pixel editing, various undo commands (including *Clear*, which irreversibly blanks the whole screen, so beware!), and routines to save drawings to tape or disc. One of the most interesting features is the provision of three "pens", which can be set to the required colour and texture, then recalled at any time. It's like having three separate paintbrushes, rather than one which you have to clean off every time you wish to change style.

All 16 Commodore 64 colours are available for designs, although you'll find that the light pen works better on bright colours. If you want to use dark colours, it can be easier to draw in a light colour then swap it around.

The other programs on the tape are also well-designed, *Pencalc* is a simple on-screen calculator program which might have educational as well as practical uses, and *Pencode* is a small machine code routine which improves the performance of the 64's hardware, allows you to define your own sprite cursor and use the pen in your own programs.

Overall the Miroscribe, with its intelligent design using the tip sensor, its strong metal construction, efficient screen control and imaginative software can be recommended at the price. Light pens will never be compulsory purchases while there is an little software for them, but perhaps products of this quality will encourage more support from software houses and micro users.

Chris Jenkins

MAKE MONEY WITH YOUR MICRO !

you could earn over £50 per week-in your spare time-and you don't need any special programming skills...

Although you may at present only use your micro to play games, your computer is in fact a very sophisticated business machine which you could use to make yourself a very substantial full or part time income. Whatever your age opportunity exists. You may be a schoolboy looking for a school business project. You may have left school and be looking for a viable business idea. You may have a good job, but you would like to have an extra income. Whatever your circumstances, if you want to make some money, you can turn your micro into a money making machine.

FORGET ABOUT GAMES

Of course it is possible to make money as a games designer, but unless you understand machine code, and have lots of original ideas, you might as well leave games designing to the professionals. After all games design is a very competitive area, and there are lots of easier ways to make money with your computer.

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We have compiled a special report which provides you with all the information you need to start a small part time business, which you can operate from home, using your micro. The report contains hundreds of business ideas which give you the possibility of earning thousands of pounds from your micro. Each idea is explained in detail, you need only the simplest of programming ability, if you can write simple basic programmes you can operate any of these ideas. (When we say simple basic programmes we mean very simple) some of the ideas require no programming but even the ideas that have the greatest potential are very simple and easy to operate.

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S'no fun

Program *Winter Sports* **Micro** Spectrum **Price** £8·95 **Supplier** Electric Dreams Software, 31 Carlton Crescent, Southampton.

Winter draws on and the thought of a hot power supply is more than welcome. Then suddenly my Spectrum is snowbound with *Winter Sports*, an eight event sports simulation, which refuses a multi-load. So it's on with the woolly gloves and on with part one.

Slalom, Giant Slalom and Downhill are grouped together and look suspiciously similar. The left hand panel gives a skier's eye view while the right is an overhead map. Skiing to the sides of or through gates isn't much helped by the forward view, so steering a course is rather like drawing wavy lines with a graphic package. If you fail a gate you can't reach the high score table, but you can't abort a run either and I found it rather slow.

Ice Hockey has more substance, a *Match Day* on skates, with a two player option. In reality it's a physically violent game and for me the figures moved rather slowly, though tackling works well apart from some awful attribute clashes which could make you lose track of your player. Judging which figure will come under your control can be difficult as there's no special indication and it's too easy to lose command of your goalkeeper when he's far from the net.

Ski Jumping is a question of steering a straight line, timing your run's start and jump, and balancing while in the air. It can all be over very quickly.

Speed skating is the first appearance of straight Track and Field joystick jiggling, and I found the 500 metres hard on the wrist so didn't even attempt the 10.000 metres which sounded like too much of a bad thing. Maybe it would at least let you separate the two contestants enough to change lane.

The Bobsled is a return to the Slalom style, though it calls for different techniques as you have to keep a close check on your speed or your sled goes over. A cross-section of the course lets you see how you lie on the banking while the right window is another wavy line.

The Biathalon is an eccentric combination of cross country skiing and shooting. Joystick wiggling moves you along the course, against an attractive background, although you have to be careful not to use up all your stamina. Shooting is a question not of aiming but timing, hitting fire when the cursor is over the small circle. You have to be quick to reload before you can shoot the next target.

If you've not suffered frostbite, you can return to the start and reload to try to better your efforts as the best scores are kept through the sections. Fans of the genre may find things to please, but several of the events left me feeling so what? Dare I say that I found the whole thing rather cold?

John Minson

Sparse detail

Program *Cammac One* **Micro** Spectrum **Price** £5·95 **Supplier** Micro Zeighty, 7 The Crescent, Hurstbourne Tarrant, Andover, Hants SP11 0AP

Six pounds is not a lot to pay for an assembler. In fact, those thinking of getting into assembly language may consider it a low cost way of trying the water. Beware! While *Cammac One* does its job (mostly), it hardly goes about it in a friendly way. It also boasts the sparsest front panel that I've seen.

Written mostly in Basic, Cammac translates the op-codes, then pokes them directly into the memory, as far as I can see. This means that the only way of editing code is to return to Basic by pressing *Break* after entering a command, then restarting at the address where the error occurred. It claims to cope with all the 256 non-prefix instructions, and all that I tried worked, but you have to be careful in handling them. For example, if you want to LDA,6 you'd have to type in LD A, N (don't forget your Caps Shift, though the single sheet instructions neglect to tell you to use it), then type in 6. There's no clue as to why wrong commands aren't accepted – they just aren't and prefixes are very tricky.

Cammac also comes with a disassembler which does its job and not much more can be said than that. The Tester-Monitor is slightly more elaborate with its display of the registers. You can single step by pressing any key, or run it directly with a *Usr* command. For some reason, though, it fails to cope with jumps, making it less than wholly useful.

Really this is more suited to a listing somewhere. Novices would soon lose patience and even experienced assembler writers will want more. Micro Zeighty promise two more advanced versions at proportionately higher prices. I can only hope that they're an advance on this.

John Minson

The white stuff

Program *Mikie* **Micro** Spectrum **Price** £7·95 **Supplier** Imagine Software (1984), 6 Central Street, Manchester M2 5NS

Tormented by teachers, jarred by the janitor's bucket, chased by cheer-leaders, Mikie is an all-American kid with a message to deliver to his girlfriend, and no high-school hi-jinks can stop him.

This conversion of a Konami arcade game by Imagine is great fun. I'll admit to not having seen the original, but going from the box illustrations the main difference seems to be that the figures here are monochrome. The game itself plays extremely well, which is not to say it's easy.

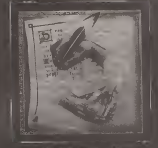
The first screen is a question of collecting hearts to complete a message and exit the classroom. The problem is that they are hidden under the chairs of Mikie's classmates. Mikie deals with this by the hip-zap which rockets the pupil into an empty chair so that Mikie can move in. He's got to avoid the wandering teacher, though, as he's only safe when he's sitting.

Free from class, Mikie has to dodge other members of staff in the corridors and make for the locker room where the hearts are in groups of three, collected by shouting at them. This screen is exceptionally busy with unfriendly characters who have no romance in their souls. In later screens Mikie's also beset by cheerleaders, whose kisses stun him.

This is all rather addictive and takes a fair bit of skill – perhaps the screens are a little too crowded, but that ensures you have something to aim for. My main complaint is that the instructions fail to mention that in keyboard mode you need separate fire keys for shouting and zapping. A good-natured arcade copy, though, which should raise the blood pressure after your Christmas pud.

John Minson

THE WRITER





Ham fisted

Program *International Karate* **Micro** Spectrum **Price** £6 50 **Supplier** System 3 Software, Southbank House, Black Prince Road, London SE1 7SJ

Time to take another kick at the Spectrum with a further addition to the martial arts genre This is very much in the vein of *Exploding Fist*, with the international element coming from the varieties of backdrop You can deliver a roundhouse in Rio, somersault in Sydney, jump in Japan, knock your opponent flying in New York and shout 'Eeeeeeee – yargh!' in Egypt. Sadly, London never made it to the tape

Sixteen different moves are possible, from mere walking forward and backward to leaping over your opponent's head, chosen by the eight directions of a joystick with or without fire, or a sensible three by three square of keys Some Kempston interfaces are reported not to work with the game, but I had no problems The figures themselves are quite well animated, slightly squatter than Melbourne House's but possibly more detailed. The moves seemed to work well, though I wasn't sure that some blows weren't slightly prejudged

However, in one player option the computer provides a worthy opponent as you struggle for two points in 30 seconds There's also a two player option. If you win a bout you can score bonus points by kicking a table full of bricks or dodging flying Kung Fu stars, though for some reason these didn't seem to get added to my total

What this version of the game does have is speech, and it's not at all bad I rather liked hearing my score The front end is not too hot though with nothing to indicate which option you've chosen All in all it's a reasonable game, considering that it's somewhat cheaper than *Exploding Fist* and if you don t already have that, you could do worse than rucking all over the world

John Minson

On line

Program *Micrograph* **Micro** Amstrad CPC with CP/M **Price** £49 00 **Supplier** Amsoft, Brentwood House, 169 King's Road, Brentwood, Essex CM14 4EF

Micrograph is the missing fourth program in Amsoft's suite of business programs that run under CP/M. The reason for its delay is easy to guess – implementing graphics on CP/M, while possible, seriously compromises the portability of the product and requires machine specific coding Still it's a nice release and probably worth the wait

The first graph utility for the CPC was Camel's *Grasp* and in comparison, since both are limited by the resolution of the CPC it is not surprising that the quality of the graphs drawn are very similar. *Micrograph* has a slide show facility and offers more graph drawing options than *Grasp*, but the latter lets you shrink and superimpose the graphs drawn to produce some highly complex composite screens *Grasp* is also very much cheaper

However, *Micrograph* wins out with its data handling potential

The program has a mini version of the *Microspread* spreadsheet built in This is unable to use the complex formula definitions found in *Microspread* but once the data is entered you can manipulate it to produce different graphs by extensive block and cell control commands Files produced by *Microspread* can be loaded into *Micrograph* although unfortunately once used by the latter they cannot be saved again in a format readable by *Microspread*.

There are options to print the spreadsheet or dump the graphs to an Epson printer or the Amstrad DMP 1 My only reservation is that if you wanted to spend anything up to £100 on producing business graphics you may need the higher quality output possible only via a pen plotter option and it is this fudged approach that is perhaps the package's weakest point

Tony Kendle

Now more

Program *Now Games 2* **Micro** Spectrum **Price** £8 95 **Supplier** Virgin Games, 2-4 Vernon Yard, Portobello Road, London W11 2DX.

Not surprisingly Virgin's first Now games compilation was a success so here's a late bid for the Santa's sack sales, titled, with stunning originality, Now Games 2! This time it's only five programs, but that's still less than two pounds each, and here's my personal appraisal.

World Cup from Artic was always sub-*Match Day*, it's only five a side rules with tiny players, the white side being difficult to see against the green field, and both sides becoming confused in tackles when the attribute clashes are worse than Millwall and Chelsea fans meeting for a polite discussion of their teams' merits

Cauldron and *Chuckie Egg II* are both arcade adventures and probably rate about equally, though for different reasons *Cauldron* looks good, apart from the inevitable attributes, and includes a shoot 'em up element as your hag zooms round on her broomstick, but is probably less playable than the more spartan looking chocolate egg making game. Still both should provide hours of fun.

Airwolf is a problem It has nice graphics and a more complex plot, calling for greater ingenuity than either of the above, as you steer your wonder helicopter to a secret base and then through a cave system to rescue some scientists The problem is that controlling the chopper is very difficult Those with patience and a steady hand may well love it.

The best till last with *Tir Na Nog*, which for me pulls this collection out of the ordinary It was the first of the Cuchulainn games, featuring that beautifully animated figure who stomps around the Celtic otherworld in a true graphic adventure The only grumble is that the instructions on the inlay are for the Commodore version, I think

So there you have it, and even if *Now 2* isn't quite so good as its predecessor it's still great value, and if you don't already have Tir Na Nog it's a must – count the other programs as a bonus.

John Minson

HALLEY'S COMET

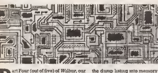
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SoftTechnics, 12/13 Henrietta Street, London WC2





WILBUR

by T A Bartley

Part Four (out of five) of *Wilbur*, our 100% machine code arcade game – played on 20 screens all in glorious technicolour. You should be getting used to the routine by now; use the Basic loader to poke the defs from the dump listing into memory. After this mammoth effort, if the checksum is correct, save the data to tape with *Save "" Code* ?????,????.

And keep that chin up – only one more week to go!

For those without an impish sense of adventure, tape copies of *Wilbur* can be obtained from the author, T A Bartley, at a cost of £2.00. Write to 81 Beverley Crescent, Grimsby, South Humberside, DN32 9TJ.

```
1000 REM    DECIMAL LOADER
1010 POKE 23609,50
1020 LET T=0: FOR N=51996 TO 53885
1030 INPUT J: PRINT N,J: POKE N,J: LET T=T+J: NEXT N
1040  IF T<>148782 THEN  PRINT "DATA ERROR:CHECK LISTING"
1050 IF T=148782 THEN  PRINT "DATA OK"
```

51996	0	0	0	0	54	0
52002	247	0	227	128	60	128
52008	94	0	206	192	223	192
52014	255	0	136	0	41	128
52020	65	128	110	0	112	0
52026	103	0	62	0	28	0
52032	15	192	7	128	0	0
52038	15	0	31	128	24	128
52044	19	192	19	192	31	128
52050	15	96	16	96	29	128
52056	28	0	28	192	15	128
52062	7	0	3	96	15	112
52068	14	56	3	200	5	224
52074	12	236	13	252	15	240
52080	7	224	3	216	4	24
52086	7	96	7	0	6	112
52092	3	224	1	192	7	4
52098	14	14	14	15	3	249
52104	1	240	4	240	6	246
52110	7	255	1	249	0	246
52116	1	6	1	216	1	192
52122	1	156	0	248	0	112
52128	32	224	112	112	240	112
52134	159	192	15	128	15	32
52140	111	96	255	224	159	128
52146	111	0	96	120	27	128
52152	3	128	57	128	31	0
52158	14	0	6	192	14	240
52164	28	112	14	192	7	160
52170	55	48	63	176	15	240
52176	7	224	27	192	24	32
52182	6	224	9	224	14	96
52188	7	142	3	128	3	240
52194	1	224	0	0	0	240
52200	1	240	1	24	3	240
52206	3	200	1	240	6	240
52212	6	8	1	184	0	56
52218	3	152	1	240	0	224
52224	0	188	0	239	1	199
52230	1	60	0	122	3	115
52236	3	251	0	255	0	126
52242	1	188	1	138	0	110
52248	0	14	0	230	0	124
52254	0	56	0	63	1	253
52260	7	131	15	243	31	255
52266	24	27	63	154	63	94
52272	96	222	124	220	66	220
52278	242	248	234	240	159	192
52284	223	0	248	0	252	0
52290	191	128	193	224	207	240
52296	215	248	216	24	89	252
52302	122	252	123	6	59	62
52308	59	86	31	79	15	87
52314	3	217	0	251	0	31
52320	48	12	96	6	64	2
52326	192	3	98	70	52	44
52332	26	88	119	238	120	85
52338	161	133	178	77	237	183
52344	51	204	31	248	15	240
52350	3	192	0	0	14	112
52356	48	12	64	2	98	70
52362	52	44	26	88	119	238
52368	170	85	161	133	128	77
52374	253	191	51	204	31	248
52380	15	240	3	192	0	0
52386	0	0	48	12	78	114
52392	98	70	52	44	26	88
52398	119	238	170	85	161	133
52404	128	77	253	191	59	220
52410	23	232	15	240	3	192
52416	0	0	14	112	48	12
52422	64	2	98	70	52	44
52428	26	88	119	238	170	85
52434	161	133	178	77	253	191
52440	51	204	31	248	15	240
52446	3	192	0	0	7	224
52452	31	248	0	0	127	254
52458	0	0	255	255	158	204
52464	156	204	156	204	255	255
52470	0	0	63	252	0	0
52476	7	224	1	128	0	0
52482	7	224	31	248	0	0
52488	127	254	0	0	255	255
52494	206	102	206	102	206	102
52500	255	253	0	0	63	252
52506	0	0	7	224	1	128
52512	0	0	7	224	31	248
52518	0	0	127	254	0	0
52524	255	255	103	51	103	51
52530	103	51	255	255	0	0
52536	63	252	0	0	7	224
52542	1	128	0	0	7	224
52548	31	248	0	0	127	254
52554	0	0	255	255	51	153
52560	51	153	51	153	255	255
52566	0	0	63	252	0	0
52572	7	224	1	128	3	192
52578	7	224	12	48	31	248
52584	24	24	28	56	47	244
52590	114	78	105	150	33	132
52596	110	118	113	142	63	252
52602	31	248	47	244	99	198
52608	3	192	6	96	15	240
52614	24	24	27	216	28	56
52620	47	244	114	78	105	150
52626	33	132	126	126	97	134
52632	63	252	31	248	47	244
52638	99	198	3	192	14	112
52644	9	144	24	24	27	216
52650	28	56	47	244	114	78
52656	105	150	33	132	126	126
52662	109	182	51	204	31	248
52668	47	244	99	198	3	192
52674	6	96	15	240	24	24
52680	27	216	28	56	47	244
52686	114	78	105	150	33	132
52692	126	126	97	134	65	252
52698	31	248	47	244	99	198
52704	255	192	102	64	102	64
52710	255	192	0	0	124	0
52716	116	0	116	64	119	192
52722	108	64	128	0	190	0
52728	102	0	52	0	60	0
52734	24	0	63	240	12	192
52740	12	192	63	240	0	0
52746	31	0	29	32	29	32
52752	29	224	47	32	32	32
52758	47	0	45	128	13	0
52764	15	0	6	0	15	252
52770	9	152	9	152	15	252
52776	0	0	7	192	7	64
52782	7	80	7	112	11	208
52788	8	0	11	192	11	96
52794	3	64	3	192	1	128
52800	3	255	3	51	3	51
52806	3	253	0	0	1	240
52812	1	210	1	210	1	222
52818	2	242	2	2	2	240
52824	2	216	0	208	0	240
52830	0	96	255	192	204	192
52836	204	192	255	192	0	0
52842	15	128	75	128	75	128
52848	123	128	79	64	64	64
52854	15	64	27	64	11	0
52860	15	0	6	0	63	240
52866	25	144	25	144	63	240
52872	0	0	3	224	2	224
52878	10	224	14	224	11	208
52884	0	16	3	208	6	208
52890	2	192	3	192	1	128
52896	15	252	3	48	3	48
52902	15	232	0	0	0	240
52908	4	184	4	188	7	184
52914	4	244	4	4	0	244
52920	1	180	0	176	0	240
52926	0	96	3	255	2	102
52932	2	102	3	255	0	0
52938	0	62	0	40	2	46
52944	3	230	2	61	0	1
52950	0	61	0	109	0	44
52956	0	40	0	24	28	0
52962	96	128	93	64	54	0
52968	109	0	91	0	55	0
52974	47	64	31	128	3	0
52980	7	128	5	192	7	0
52986	2	0	5	0	8	128
52992	7	128	26	0	25	0
52998	13	128	27	64	22	192
53004	13	192	11	208	7	224
53010	0	192	1	224	1	112
53016	1	192	0	128	1	64
53022	2	32	1	128	6	0
53028	5	212	3	96	5	208
53034	5	176	3	112	2	244
53040	1	248	0	48	0	120
53046	0	92	0	112	0	32
53052	0	80	0	136	0	112
53058	1	160	1	112	0	216
53064	1	160	1	108	0	220
53070	0	199	0	126	0	12



53076	0	30	0	23	0	28
53082	0	8	0	20	0	34
53088	14	0	5	128	14	128
53094	27	0	45	128	54	128
53100	59	0	189	0	126	0
53106	40	0	128	0	232	0
53112	36	0	16	0	40	0
53118	68	0	1	129	16	96
53124	43	160	6	192	11	96
53130	13	160	14	192	47	64
53136	31	128	12	0	30	0
53142	50	0	16	0	4	0
53148	10	0	17	0	1	224
53154	0	88	0	232	1	176
53160	2	216	3	104	3	176
53166	11	208	7	224	3	0
53172	7	128	14	128	3	128
53178	1	0	2	128	4	64
53184	0	56	1	6	2	104
53190	0	108	0	160	0	216
53196	0	234	2	244	1	248
53202	0	192	1	224	3	160
53208	0	224	0	64	0	160
53214	1	16	255	255	108	54
53220	45	180	45	180	45	180
53226	45	180	45	180	45	180
53232	45	180	33	132	63	252
53238	0	4	0	24	0	224
53244	7	96	28	224	255	255
53250	108	54	45	180	45	180
53256	45	180	45	180	45	180
53262	45	180	45	180	33	132
53268	63	252	0	14	7	240
53274	62	64	3	192	0	0
53280	255	255	108	54	45	180
53286	45	180	45	180	45	180
53292	45	180	45	180	45	180
53298	33	132	63	252	127	254
53304	2	64	3	192	0	0
53310	0	0	255	255	108	54
53316	45	180	45	180	45	180
53322	45	180	45	180	45	180
53328	45	180	33	132	63	252
53334	0	14	7	240	62	64
53340	3	192	0	0	255	192
53346	179	64	161	64	179	64
53352	222	192	127	128	0	0
53358	43	0	12	0	12	0
53364	18	0	18	0	53	0
53370	33	0	97	128	97	128
53376	63	240	59	48	58	16
53382	59	48	63	240	31	224
53388	0	0	15	192	3	0
53394	3	0	4	128	4	128
53400	4	128	4	128	12	192
53406	12	192	15	252	6	184
53412	2	176	6	168	13	220
53418	7	248	0	0	3	240
53424	0	192	0	192	0	192
53430	0	192	0	192	0	192
53436	1	224	1	32	3	250
53442	3	55	2	23	3	53
53448	3	239	1	254	0	0
53454	0	252	0	48	0	48
53460	0	72	0	72	0	72
53466	0	72	0	204	0	204
53472	0	0	127	128	127	128
53478	255	192	223	192	223	192
53484	127	128	127	128	30	0
53490	0	0	0	0	0	0
53496	0	0	0	0	0	0
53502	0	0	0	0	0	0
53508	0	0	0	0	7	128
53514	31	224	31	224	63	240
53520	63	240	63	240	31	224
53526	28	224	7	128	0	0
53532	0	0	0	0	0	0
53538	0	0	0	0	0	0
53544	0	0	0	0	0	0
53550	1	224	7	248	7	248
53556	15	236	15	236	15	252
53562	7	248	7	248	1	224
53568	0	0	0	0	0	0
53574	0	0	0	120	1	206
53580	1	254	3	255	3	256
53586	3	255	1	254	1	254
53592	0	120	0	0	0	0
53598	0	0	0	0	0	0
53604	0	0	0	0	0	0
53610	0	0	0	0	127	128
53616	0	0	191	128	95	192
53622	191	128	95	192	0	0
53628	127	128	255	192	0	0
53634	0	0	0	0	0	0
53640	0	0	0	0	0	0
53646	31	224	0	0	43	240
53652	53	240	43	240	53	240
53658	0	0	31	224	63	240
53664	0	0	0	0	0	0
53670	0	0	0	0	0	0
53676	0	0	7	248	0	0
53682	16	212	15	172	15	212
53688	15	172	0	0	1	248
53694	15	252	0	0	0	0
53700	0	0	0	0	0	0
53706	0	0	0	0	1	254
53712	0	0	1	253	3	250
53718	1	253	3	250	0	0
53724	1	254	3	255	0	0
53730	0	0	0	0	0	0
53736	0	0	0	0	24	0
53742	4	0	28	0	63	126
53748	214	192	43	128	28	0
53754	40	0	20	0	168	0
53760	0	0	0	0	0	0
53766	0	0	0	0	0	0
53772	6	0	1	0	7	128
53778	15	224	53	176	10	224
53784	20	0	0	0	0	0
53790	0	0	0	0	0	0
53796	0	0	0	0	0	0
53802	0	0	3	128	10	64
53808	5	96	2	240	13	108
53814	0	56	0	0	0	0
53820	0	0	0	0	0	0
53826	0	0	0	0	0	0
53832	0	0	0	0	0	64
53838	0	48	0	120	0	254
53844	3	91	0	174	1	64
53850	0	0	0	0	0	0
53856	0	0	0	0	0	0
53862	0	0	0	0	0	0
53868	2	0	12	0	30	0
53874	127	0	218	192	117	0
53880	2	128	0	0	0	0



HAPPY CHRISTMAS

by A Heptonstall

Happy Christmas is a computer-ised Christmas greeting card. It displays a row of houses and a sky filled with stars, and then moves Santa on his sleigh across the screen, accompanied to the sound of festive music. The program uses the *ENVELOPE* command to emulate the sound of sleigh bells. It then prints up a 'Happy Christmas' message (This message is held in *PROCmessage* at the end of the program, and can be changed so that it wishes anyone a 'Happy Christmas'.)

The program uses the *ADVAL (-6)* command to call *PROCjingle* only when no note is currently being played, ie, when *ADVAL (-6) < > 0* so that the sleigh is not stopped by the music being played.

Program notes and the rest of the listing next week

```
10REM ... Happy Christmas ...
20REM . . . A D Heptonstall ...
40REM
50MODE 2
60PROCdefine
70PROCstars
80PROChouses
90PROCsanta
100PROCmessage
110REPEAT
120UNTIL forever
130:
140DEFPROCdefine
150RESTORE 950
160forever=0
170C%=1
180ENVELOPE 1,1,0,0,0,1,1,1,30,1, 1, 2,120,126
190VDU 23;8202;0;0;0;
200VDU 23,224,0,0,0,0,1,3,3,2
210VDU 23,225,0,0,0,0,248,252,62,62
220VDU 23,226,0,0,0,0,0,0,15,27
230VDU 23,227,7,7,0,0,0,0,128,128
240VDU 23,228,63,125,127,127,127,126,63,12,12
250VDU 23,229,0,0,0,192,0,0,0,0
260VDU 23,230,3,15,31,31,31,31,31,31
270VDU 23,231,192,224,240,240,240,240,240,240
280VDU 23,232,63,63,63,63,63,63,63,63
290VDU 23,233,192,252,63,3,0,12,12,252
300VDU 23,234,0,0,0,255,0,0,0,0
310VDU 23,235,31,255,4,8,16,33,66,255
320VDU 23,236,240,255,33,66,132,8,16,255
330VDU 23,237,63,255,8,16,33,66,132,255
340VDU 23,238,252,255,66,132,8,16,32,192
350VDU 23,239,77,50,20,36,40,252,244,255
360VDU 23,240,0,0,0,192,63,31,63,63
370VDU 23,241,0,0,0,0,255,255,255,255
380VDU 23,242,255,252,48,48,240,248,248,248
390VDU 23,243,63,31,8,16,32,32,32,16
400VDU 23,244,255,255,36,24,40,68,130,65
410VDU 23,245,248,240,72,16,8,8,8,16
420VDU 23,246,0,0,0,0,1,7,31,127
430VDU 23,247,0,0,24,126,255,255,255,255
440VDU 23,248,0,0,0,0,128,224,248,254
450VDU 23,249,127,64,64,64,64,64,127,127
460VDU 23,250,255,255,255,255,255,129,129,129
470VDU 23,251,254,2,2,2,2,2,254,254
480VDU 23,252,64,64,64,64,64,127,127,0
490VDU 23,253,129,129,129,129,129,129,129,0
500VDU 23,254,2,2,2,2,2,254,254,0
510VDU 23,255,126,126,126,126,126,126,126,126
520ENDPROC
530:
540DEFPROCstars
550FOR R%=0 TO 100
560X%=RND(1280)
570Y%=RND(788)+300
580MOVE X%,Y%
590DRAW X%,Y%
600NEXT R%
610ENDPROC
620:
630DEFPROChouses
640VDU 5
650FOR R%=0 TO 1088 STEP 213
660MOVE R%,120
670VDU 18,0,1,246,247,248,8,8,10,18,0,2,255,8,8,10,0,4,249
,250,251,8,8,8,10,252,253,254,8,8,10,0,2,255
680NEXT R%
690VDU 4
700ENDPROC
710:
720DEFPROCsanta
730FOR R%=0 TO 11
740FOR S%=7 TO 0 STEP -7
750COLOUR S%
760PRINT TAB(R%,13);
770VDU 32,32,224,225,8,8,8,10,226,227,228,229,32,32,32,239
,8,8,8,8,8,8,8,8,10,230,231,232,233,234,240,241,242,8,8,8,8,
8,8,8,8,10,235,236,237,238,32,243,244,245
780IF S%=7 THEN PROCtune
790NEXT S%
800NEXT R%
810ENDPROC
820:
830DEFPROCtune
840FOR D%=1 TO 1500
850IF ADVAL(-6)<>0 AND C%>0 THEN PROCjingle
860NEXT D%
870ENDPROC
880:
890DEFPROCjingle
900READ C%,D%,E%
910SOUND 1,1,C%,E%
920SOUND 2,1,D%,E%
930ENDPROC
940:
950DATA 117,101,5,117,101,5,117,101,10,117,101,5,117,101,5
,117,101,10
960DATA 117,101,5,129,117,5,101,69,8,109,81,2,117,101,20
970DATA 121,89,5,121,89,5,121,89,8,121,89,2,121,101,5,117,
101,5,117,101,5,117,101,2,117,101,2
980DATA 117,77,5,109,77,5,109,77,5,117,77,5,109,81,10,129,
97,10
990DATA 117,101,5,117,101,5,117,101,10,117,101,5,117,101,5
,117,101,10
1000DATA 117,101,5,129,117,5,101,69,8,109,81,2,117,101,20
1010DATA 121,89,5,121,89,5,121,89,8,121,89,2,121,101,5,117,
101,5,117,101,5,117,101,2,117,101,3
1020DATA 129,81,5,129,81,5,121,89,5,109,97,5,101,101,20
1030DATA 81,53,5,117,101,5,109,81,5,101,69,5,81,53,15,81,53
,2,81,53,3
1040DATA 81,53,5,117,101,5,109,81,5,101,69,5,89,73,20
1050DATA 89,73,5,121,109,5,117,101,5,109,97,5,97,81,20
1060DATA 129,97,5,129,81,5,121,89,5,109,97,5,117,101,20
1070DATA 81,53,5,117,101,5,109,81,5,101,69,5,81,53,15,81,53
,2,81,53,3
1080DATA 81,53,5,117,101,5,109,81,5,101,69,5,89,73,20
1090DATA 89,73,5,121,109,5,117,101,5,109,97,5,129,97,5,129,
97,5,129,97,5,129,97,2,129,97,3
1100DATA 137,81,5,129,81,5,121,89,5,109,97,5,101,101,20
1110DATA 0,0,0
1120:
1130DEFPROCmessage
1140COLOUR 13
1150PRINT TAB(2,1);"Happy Christmas"
1160COLOUR 14
1170PRINT TAB(7,3);"from"
1180COLOUR 12
1190PRINT TAB(1,5);"Popular Computing"
1200COLOUR 10
1210PRINT TAB(6,7);"Weekly"
1220ENDPROC
```

READERS' POLL

It's big, it's bright; it's mind-boggling, it's back. The *Popular Computing Weekly* Readers' Poll has returned for another triumphant run

Cast your votes below for your own best and worst of 1985. If you don't feel qualified to answer a particular section, it doesn't matter, just leave that one blank. Entries should reach us at the address below no later than Thursday January 9. The results will be published in the issue dated January 23

1 Program of the Year (overall)

Last year's winner – *Knight Lore*

Which title this year has had you gasping at its perfection, stunned at its possibilities and abilities? A Troll trouncing or alien bashing game, perhaps, or a great utility or application that helped you get the very best out of your micro

2 Arcade Game of the Year

Last year's winner – *Knight Lore*

Which one was the most action-packed fast-moving, graphically astounding, nerve shredding arcade program of the last 12 months? Are you now a nervous wreck? Which game was responsible?

3 Adventure of the Year

Last year's winner – *Lords of Midnight*

Atmosphere, involvement, sophistication, plot – which program mixed all these ingredients into the perfect Adventure cocktail?

4 Business Package of the Year

Last year's winner – *Tasword 2*

The software company may swear blind that its wordprocessor/spreadsheet/accounts program is just the thing your humble home micro needs, but Which home business program actually helped you in the last year?

5 Utility Program of the Year

Last year's winner – Quickshot II joystick

Games designers – particularly adventure writers – have been in the news in 1985. More and more implementations of languages are becoming available for the home machines. Icons and other user friendly paraphernalia popped up all over the place. Which one did you find most useful?

6 Peripheral of the Year

Last year's winner – *The Quill*

Printers, disc drives, light pens, joysticks, modems even ZX microdrives. The list of peripherals has grown enormously in the past year

7 Best Software House

Last year's winner – Ultimate

Whose programs do you look for first on the shop shelves? Which company do you feel is bringing out consistently good titles at a fair price. Are their products always reliable? Are they helpful if you have any problems!

READERS' POLL

8 Best Programmer
Last year's winner – Matthew Smith

The one whose programs you know you're going to like as soon as you see the author's credit on the inlay. A wacky individualist or a technical wizz, who do you choose?

9 Most Promising New Company
Last year's winner – Beyond

Of the companies which first emerged during 1985, which one do you think most deserves to go on to greater things in 1986?

10 Overrated Software House
Last year's winner – Imagine

The biggest deals. The flashiest packaging. Enormous adverts. The most disappointing contents. Which company do you most feel gets big coverage but always lets you down with the programs?

11 Computer Program you most regret buying

Not the company this time but a highly hyped title you feel failed to live up to even minimal expectations. Speak your mind and name names.

12 Most Exciting Computer
Last year's winner – Amstrad CPC464

Not necessarily your own, but which new micro would you buy if only you had the cash? Or it could be the brand new micro you bought and have never regretted owning for an instant.

13 Worst Computer
Last year's winner – MSX

In this section, it doesn't even have to be a 1985 release! But it certainly makes you feel it's a waste of time getting it down from the attic where it's been all its life. Or perhaps you were sensible enough not to buy it in the first place, and giggled to yourself when your friends bought one.

14 Worst Licensing Deal
Last year's winner – *War of the Worlds*

Licensing deals from the movies, sporting events, TV personalities et al continue to appear in vast numbers. But some programs don't really live up to the licence, and some fall dismally short of the quality you'd expect from the endorsement. Some don't appear to have anything to do with the original whatsoever...

All you have to do now is fill out the form here, and then send the whole lot off to Readers Poll, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP.

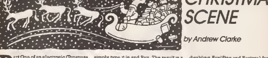
Please make sure your entry reaches us by Thursday, January 9.

Name ....

Micro/micros owned (if any) ....

....


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Cumsna's new, improved Touch Pad with Screen Artist forms the perfect combination of state of the art technology and human creativity – an easy to use graphics plotting aid with a brand new and powerful software library with new titles being added on a regular basis
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CHRISTMAS SCENE

by Andrew Clarke

Part One of an electronic Christmas scene for Commodore 64 owners. It needs no participation – it is simply a 'sit back and watch' program: simply type it in and Run. The result is a very good display. For obvious reasons I have avoided any 'protection' Pokes although these could be added (such as disabling *Run/Stop* and Restore) for any public display of the routine.

Next week, the final helping of listing and some more program notes.



```
0 REM ********************************
1 REM *** DANCE / COMMODORE 64      ***
2 REM *** (C) 1985                  ***
3 REM *** BADDESLEY ENSOR,          ***
4 REM *** CV9 2BQ                   ***
5 B=0 GOSUB260
6 READW IFW=-1THENB=B+1 IFB=3THEN10
8 GOTO6
10 FORS=230TO251 FORT=0TO62
12 READW POKES*64+T,W NEXT NEXT
14 RESTORE CLR V=53248 POKEV+6,0 POKEV+
   8,0 POKEV+10,0
16 GOSUB200 POKE2040,243 POKE2041,242
   POKEV+28,255 POKEV+39,1 POKEV+38,10
18 POKEV+37,2 POKEV+40,5 POKEV+41,5 POKEV,
   125 POKEV+1,200 POKEV+2,168
20 POKEV+3,160 POKEV+16,196 POKEV+4,65
   POKEV+5,160 POKEV+23,6 POKE2042,242
22 POKEV+21,255 GOSUB300 FORT=1TO1000 NEXT
   GOSUB600 POKE2040,239
24 FORT=124TO140STEP2 POKEV,T FORK=1TO20
   NEXT GOSUB314 GOSUB400 NEXT POKEHF+7,0
26 S=140 FORT=200TO190STEP-1 POKEV+1,T
   POKEV,(PEEK(V)+1) GOSUB320 NEXT
28 FORT=190TO200 POKEV+1,T POKEV,(PEEK(V)+1)
   GOSUB330 NEXT
30 FORT=160TO190STEP2 POKEV,T FORY=1TO20
   NEXT GOSUB314 GOSUB400 NEXT
32 POKE2040,236 S=210 FORT=200TO182STEP-1
   GOSUB410 FORK=1TO20 NEXT POKEV+1,T
34 GOSUB320 NEXT GOSUB340 GOTO500
99 END
100 FORC=54272TO54296 POKEC,0 NEXT VO=54296
    AT=54277 WA=54276 SU=54278
102 HF=54273 LF=54272 POKESU,89 POKEAT,68
    POKESU+7,255 POKEAT+7,32
104 POKELF+3,8 POKEVO,15 RETURN
106 READA,B,C IFA=-1THEN114
108 POKEWA,65 POKEWA+7,17 POKEHF,A POKELF,
    B POKEHF+7,A POKELF+7,B
110 FORT=1TOC NEXT POKEWA,64 POKEWA+7,16
    RETURN
114 FORC=54272TO54296 POKEC,0 NEXT
116 POKE2040,231
120 PRINT"
122 PRINT"
124 PRINT"
126 PRINT"
128 PRINT"
130 PRINT"
132 PRINT"
134 PRINT"
136 Z1=114 Z2=90 Z3=1 Z4=1 POKEV+16,196
    POKEV+12,Z1 POKEV+14,Z2 P=0
137 POKEV+10,0 POKEV+21,255
138 Z1=Z1-3 Z2=Z2-3 IFZ2<0ANDZ4=1THENZ2=
    Z2+255 POKEV+16,(PEEK(V+16)-128) Z4=0
140 IFZ1<0ANDZ3=1THENZ1=Z1+255 POKEV+16,
    (PEEK(V+16)-64) Z3=0
142 IFZ2<0ANDZ4=0THENP=1 POKEV+14,0
144 IFZ1<0ANDZ3=0THENP=2 POKEV+12,0
146 IFP<>2THENPOKEV+12,Z1
148 IFP=0THENPOKEV+14,Z2 GOSUB190
150 IFP=2THENPOKEV+21,63 GOTO136
152 GETA$ IFA$=""THEN138
154 POKEV+12,255 POKEV+14,255
156 POKEV+21,0 PRINT"" GOSUB260 FORT=
    1TO1000 NEXT RUN14
190 IFPEEK(2047)=250THENPOKE2047,251 RETURN
192 POKE2047,252 RETURN
198 REM *** SLEIGH/SANTA ROUTINE HERE
199 GOTO199
200 POKE53280,0 POKE53281,0 PRINT""
202 PRINT"
204 PRINT"
206 PRINT"
208 PRINT"
210 PRINT"
212 PRINT"
214 PRINT"
216 PRINT"
218 PRINT"
220 PRINT"
222 PRINT"
224 PRINT"
226 PRINT"
228 PRINT"
230 PRINT"
232 PRINT"
234 PRINT"
236 PRINT"
238 PRINT"
240 PRINT"
242 PRINT"
244 PRINT"
246 PRINT"
248 FORT=1944TO2023
250 POKET,224 POKET+54272,15 NEXT RETURN
260 POKE53280,0 POKE53281,0
262 PRINT"
264 PRINT"
266 PRINT"
268 PRINT"
270 PRINT"          ANDREW  CLARKE
272 PRINT"             PRESENTS
274 PRINT"          THE  SNOWMAN'S
276 PRINT"         CHRISTMAS  DANCE
278 PRINT"
280 PRINT"          (C) 1985
282 PRINT"
284 PRINT"
286 RETURN
300 FORC=54272TO54296 POKEC,0 NEXT VO=54296 AT=54277 WA=54276 SU=54278
302 HF=54273 LF=54272 POKEAT,32 POKESU,255 POKEAT+7,32 POKESU+7,255
304 POKEWA,65 POKELF+3,8 POKEWA+7,129 RETURN
314 POKEVO,15 POKEHF,T/2 POKEHF+7,T RETURN
320 POKEVO,15 POKEHF,S/2 S=S+4 RETURN
330 POKEVO,15 POKEHF,S/2 S=S-4 RETURN
340 POKEHF+7,0 POKEHF,20 FORT=1TO50 NEXT GOSUB300 RETURN
350 POKEVO,15 POKEWA,129 POKEHF,120 RETURN
360 POKEVO,15 POKEWA,65 POKEHF,D/2 RETURN
362 POKEVO,15 FORD=1TO10 FORF=1TO50 POKEV+30,F
364 POKEHF,F POKEHF,D NEXT NEXT GOSUB300 RETURN
400 IFPEEK(2040)=239THENPOKE2040,240 RETURN
402 IFPEEK(2040)=240THENPOKE2040,241 RETURN
404 IFPEEK(2040)=241THENPOKE2040,239 RETURN
406 RETURN
410 IFPEEK(2040)=236THENPOKE2040,237 RETURN
412 IFPEEK(2040)=237THENPOKE2040,238 RETURN
414 IFPEEK(2040)=238THENPOKE2040,236 RETURN
416 RETURN
500 GOSUB100
502 S=230 Q=1 J=0 X=150
504 POKE2040,S X=X+7 POKEV,X GOSUB106
506 S=S+Q IFS>232THENFORT=1TO100 NEXT J=1 POKE2040,232 X=X+7 POKEV,X
    GOSUB106
507 FORT=1TO100 NEXT IFJ<>1THEN504
508 POKE2040,S X=X+7 POKEV,X GOSUB106
510 S=S+Q IFS>235THENFORT=1TO100 NEXT J=0 POKE2040,235 X=X+7 POKEV,X
    GOSUB106
511 FORT=1TO100 NEXT IFJ<>0THEN508
512 POKE2040,S X=X-7 POKEV,X GOSUB106
514 S=S+Q IFS>238THENFORT=1TO100 NEXT J=1 POKE2040,238 X=X-7 POKEV,X
    GOSUB106
515 FORT=1TO100 NEXT IFJ<>1THEN512
516 POKE2040,S X=X-7 POKEV,X GOSUB106
518 S=S+Q IFS>241THENFORT=1TO100 NEXT J=0 S=230 POKE2040,241 X=X-7
    GOSUB106
```



CHRISTMAS CARD

by R Braverman and J Tarrant

There have been Christmas cards. There have been musical Christmas cards. And now here is the computerised Christmas card! As you listen to a three-part arrangement of *We Wish You A Merry Christmas*, watch snowflakes fall gently around the Christmas tree.

The program itself occupies about $6\frac{1}{2}$ kB of Ram, and consists largely of data statements containing the musical information. Because of the large number of data elements, we have included a pre-program (Lines 10-80) which verifies the data. This is automatically deleted when the data is confirmed to be correct.

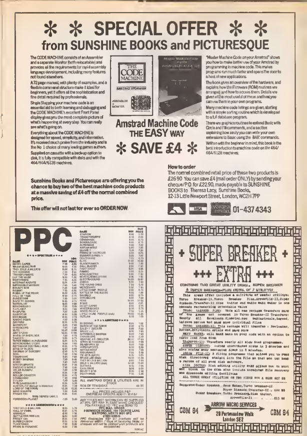
All three sound channels are used in the musical arrangement. Rendezvous is provided between the channels, and short breaks are used to distinguish consecutive notes of the same frequency. Notes are specified as channel status, pitch, and duration, and are read from the data statements three at a time. This ensures that the sound channels are kept busy while the program *gosubs* to the moving graphics routine.

The snowflakes are chosen at random and are moved down the screen by reading an array *p()* giving the current snowflake position, which is then updated and a new snowflake printed. To ensure that snowflakes do not print over the Christmas tree, the bottom of the screen is redefined using an elliptical envelope. This is effected by the user defined function in Line 160.

The tree is drawn using the usual graphics commands, but is made simpler by the use of *for ... next* loops permitted by regular symmetry of the tree. In order to get maximum effect from both green and colour monitor screens, two distinct versions of *ink* statements are given in Line 210. You should use whichever is appropriate. Part two next week.

If you would prefer not to type the listing, you can obtain a tape copy by sending a blank cassette, together with an SAE and £1 to 217 Whitehorse Road, Croydon CR0 2LH.

```
100 REM >>>>>>>>>> COMPUTERISED CHRISTMAS CARD FOR AMSTRAD CPC464 >>>>>>>>>>
110 REM >>>>>>>>>> BY RACHEL BRAVERMAN & JON TARRANT            >>>>>>>>>>
120 :
130 REM ***** DEFINE PROGRAM PARAMETERS *****
140 DEFSTR a:DEFINT b-y:DEFREAL z
150 n=30:jump= [illegible]
    [illegible]
    [illegible]
160 DEF FNz(y)= [illegible]
170 DIM p(n,3)
180 :
190 REM ***** SET UP GRAPHICS ROUTINE *****
200 MODE 1
210 REM for colour screen use INK 0 [illegible]
        for green screen use INK 0,0:INK 1,[illegible]:INK 2,[illegible]:INK 3,[illegible]:BORDER 0
220 PRINT CHR$(22)+CHR$(1);
230 ORIGIN 319,0:TAG
240 :
250 REM ***** INITIALIZE SCREEN DISPLAY *****
260 FOR e=0 TO n
270     [illegible]
280     IF [illegible] THEN [illegible]
                     ELSE PLOT [illegible]:PRINT "*";[illegible]
290 NEXT e
300 INK 1,26
310 :
320 REM ***** DRAW CHRISTMAS TREE *****
330 ORIGIN 0,0
340 PLOT [illegible]:PRINT a1;
350 FOR dv=10 TO 24 STEP 6
360     PLOT [illegible]:PRINT a2;
370     PLOT [illegible]:PRINT a2;
380 NEXT dv
390 FOR dv=1 TO [illegible] STEP 2
400     PLOT [illegible]
410     FOR [illegible] TO 3 STEP 1
420         DRAW [illegible]:DRAW [illegible]
430     NEXT [illegible]
440     DRAW [illegible]:DRAW [illegible]
450 NEXT dv
460 PLOT [illegible]:PRINT "WE";
470 PLOT [illegible]:PRINT "WISH";
480 PLOT [illegible]:PRINT "YOU A";
490 PLOT [illegible]:PRINT "MERRY";
500 PLOT [illegible]:PRINT "CHRISTMAS";
510 ORIGIN 318,0
520 :
530 REM ***** MAIN PROGRAM LOOP *****
540 programming=1
550 WHILE programming
560     RESTORE 800
570     f1=1
580     WHILE f1<>0
590         READ f1,f2,f3,f4,f5,f6,f7,f8,f9
600         SOUND f1,f2,f3:SOUND f4,f5,f6:SOUND f7,f8,f9: 2
610         GOSUB 690
620     WEND
630     FOR d=0 TO 1200 STEP 1
640         REM *** delay loop ***
650     NEXT d
660 WEND
670 STOP
680 :
```


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THE HILL

by A P Morris

As the festive season approaches, we present a little light relief for our QL cognoscenti – and how more seasonal can you get – battering your opponents brains out with a howitzer.

The Hill is a two player game in which you are presented with the classic problem – that is to kill them before they kill you.

Allot an angle, trust to your shot and try to hit the house on the other side of the hill. And just to make things fair, they'll be doing exactly the same. The program is fully Remmed, so should be quite understandable.

Part Two will be printed next week, meanwhile, good luck!

```
100 REMark ##################
110 REMark ### A.P.MORRIS ###
120 REMark ###  THE HILL  ###
130 REMark ###  — QL —   ###
140 REMark ##################
150 :
160 DIM player$(2,10),scores(2)
170 RANDOMISE:scores(1)=0:scores(2)=0
180 grav=4.9:bofs=163712:q=15
190     set_window
200      the_game
210 :
220 REMark ——————————————————————————
230 DEFine PROCedure the_game
240  names
250  pl=RND(1 TO 2)
260  IF pl=1 THEN
270   first=1:second=2:stp=1
280  ELSE
290   first=2:second=1:stp=-1
300  END IF
310 :
320  REPeat hills
330   round=0
340   hill
350 :
360   REPeat until_hit
370    round=round+1:AT#4,0,18:PRINT#4,round
380    FOR turns=first TO second STEP stp
390     pl=turns STRIP#4,6
400     AT#4,0,(7+22*(pl-1))-LEN(player$(pl)
     )*(pl-1)
410     PRINT#4,player$(pl)
420     REPeat values
430      AT#4,2,0:CLS#4,2
440      BEEP 1000,30:AT#4,3,0:INPUT#4,
      "Input Angle? ",an$
450      IF an$="" THEN GO TO 440
460      ang=an$
470      BEEP 1000,30:AT#4,4,0:INPUT#4,
      'Input Velocity? ";ve$
480      IF ve$="" THEN GO TO 470
490      vel=ve$
500      AT#4,4,25:PRINT#4;'OK? (y/n)'
510      ok$=INKEY$(-1)
520      IF ok$=='y  THEN EXIT values
530     END REPeat values
540     IF pl=2 THEN ang=180-ang
550     cl=1
560     shoot 7,ang,vel,wind
570     IF colv=6 THEN EXIT until_hit
580     flare 3:BEEP 0,q,q,q,q,q,q:PAUSE 100
590     RECOL#5,0,1,2,3,4,5,6,1
600     wind_title
610      cl=0:colv=1:BEEP:flare 1:house
620      INK#4,3:IF turns=2 THEN ang=180-ang
630      AT#4,2,((turns-1)*21+1):PRINT#4,ang;"
      Deg ";vel;' mps'
640      INK#4,1:RECOL#4,0,1,2,3,4,5,5,7
650     END FOR turns
660    END REPeat until_hit
670 :
680   AT#4,1,0:CLS#4,2
690   IF rx>100 THEN scores(1)=scores(1)+1:first
   =1:second=2:stp=1
700   IF rx<100 THEN scores(2)=scores(2)+1:first
   =2:second=1:stp=-1
710   AT#4,0,1:PRINT #4;scores(1)
720   AT#4,0,33:PRINT#4;scores(2)
730   flare 2:BEEP 0,q,q,q,q,q,q
740   RECOL#4,0,1,2,3,4,5,5,7
750   CSIZE#5,3,1:FLASH#5,1:AT#5,2,12:
   PRINT#5,"HIT'"
760   PAUSE 100:BEEP:PAUSE 150:CSIZE#5,2,0:
   FLASH#5,0
770  END REPeat hills
780 :
790 END DEFine the_game
800 REMark ——————————————————————————
810 DEFine PROCedure shoot (c,a,v,w)
820  INK#5,c:AT#4,4,25:STRIP#4,7:INK#4,2:
  PRINT#4; Abort? <*>':STRIP#4,6:INK#4,1
830  tsin=SIN(RAD(a))
840  tcos=COS(RAD(a))
850  FOR time=.1 TO 40 STEP .1
860   y=(v*time*tsin)-(grav*time*time)
870   x=(v*time*tcos)-(w*time*time)
880   abort$=INKEY$(0):IF abort$= *
   THEN EXIT time
890   IF cl=1 THEN BEEP (y*2),(y/2)
900   hit x,y
910   POINT#5,x+osx,y+osy
920   IF y+osy<10 THEN EXIT time
930   IF colv=6 OR colv=4 THEN
940    IF y<150 AND (rx>40 AND rx<455)
   THEN EXIT time
950   END IF
960  END FOR time
970  BEEP
980 END DEFine shoot
990 REMark ——————————————————————————
1000 DEFine PROCedure hit(x,y)
1010  osx=30:osy=11
1020  IF pl=2 THEN osx=300
1030  rx=INT((x+osx)*1.31+36)
1040  ry=INT(y+osy+(57-((y+9+osy)DIV 25)))
1050  mpos=bofs+(rx DIV 8)*2-ry*128
1060  hi=PEEK(mpos) DIV (4^(3-(rx DIV 2) MOD 4))
```



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1) Key in the computer program listing printed here into your micro and *Run* the program.

2) Input your special **Micro Magic** number as data in the program when requested and press *Enter*

3) The program will tell you if you have won a prize this week and what it is

4) If you have won a prize you can claim it by filling in the coupon on the back of your special **Micro Magic** card **Then send the completed card off to Micro Magic, Popular Computing Weekly, 12-13 Little Newport Street, London WC2H 7PP**

Don't forget to fill in both your name and address, and also both your winning **Micro Magic** answer from this week and your special **Micro Magic** number

5) If you haven't won this week, don't give up hope Keep your **Micro Magic** card and use it to find out if you win with next week s **Micro Magic** computer program. The same card will last you right through to Christmas, so don't throw it away – you could miss the opportunity to win.

Micro Magic: Week 12 Program listing

This week's winning Micro Magic Number is: 251896

If you think you've won complete the form on the back of your Micro Magic card and send it to: Micro Magic, Popular Computing Weekly, 12-13 Little Newport Street, London WC2H 7PP.

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Screen Dump on Amstrad by K Fairley

Having just bought myself an Epson compatible printer (the Brother M-1009), my first thought was to try a screen dump. The attempt I made at writing one (in Basic) was reasonably successful but very slow and since my knowledge of machine code is extremely limited my only resort was someone else's program. So out came my back issues of various magazines and the search for a machine code screen dump program began. The programs that I did find were fine in their way but limited to black and white.

Just when it looked like I would have to buy a program I remembered that there was a printing routine on my copy of *Mini Office*. I recorded the machine code part of it on to a blank tape, loaded in a screen and called the routine. It worked perfectly. In Mode 2, black and white, in Mode 1, black, white and two shades of grey. In Mode 0, black, white, two shades of grey and 12 sets of dot patterns for the different pens. The way I did it was as follows.

Those of you who have a disc drive in program one, those with tape type in program two. But first you must put your original copy of *Mini Office* in your tape recorder and type in *Cat*. Stop the tape when it prints up Graph2. Rewind it slightly until you are at the start of Graph2 block 1, then run either program one or program two.

Once you have done the above it is just a matter of loading "DUMP",&5f38, then loading the screen you wish to dump. After that simply CALL &5f38 and sit back. If, however, you have an Amstrad DMP1 printer then change the poke to *Poke &5f39,1*

```
5 REM disc
10 MEMORY &5f37
20 |TAPE.IN:DISC.OUT
30 LOAD "GRAFH2",&5f38
40 POKE &5f39,2
50 SAVE "DUMP",
   B,&5f38,1024
```

```
5 REM tape
10 MEMORY &5f37
20 LOAD "GRAPH",&5f38
30 POKE &5f39,2
40 SAVE "DUMP",
   B,&5f38,1024
```

Dump Procedure on QL by Endaff Bowen

These procedures load the GPrint ('lodump' – the dump routine) off *Easel*. This dump is compatible with all printers of the FX-80 type (I use a Memotech DMX80 printer). The commands and the program follow, merge the procedures with your own program.

Lodump – to load the M/C program off *Easel*

Dump – to transfer screen to printer.

```
1 REMark ** To Load dump (lodump) & to dump (dump) **
2 DEFine PROCedure lodump
3 BORDER 1,2:CLS:CLS#0:FLASH 0:CSIZE 2,1:AT 0,2:PRINT "PUT "EASEL" DISK IN DRIVE ONE ?":CSIZE 0,0:PAPER
  0:INK 7:AT 3,0:PRINT "PRESS ANY KEY TO LOAD"LODUMP" PROGRAM":PAUSE -1
4 start=RESPR(300)
5 AT 7,5:CSIZE 0,0:FLASH 0:PRINT "LOADING GPRINT OFF EASEL.":BEEP 0,2,50,50,30,50,7,7:AT 0,2:PRINT
  "TO DUMP TO PRINTER ENTER ":AT 0,
27:INK 2:FLASH 1:PRINT " DUMP ":FLASH 0:AT 10,5:PRINT "PROC'S FROM LINE 1 TO 10.":INK 5:AT 12,6:PRINT
  "DO NOT ERASE LINES 1 TO 15 "
6 LBYTES mdv2_gprint_prt,start:AT 15,13:CSIZE 0,1:FLASH 1:BEEP 16000,255,-600,20,-200,20,9,0:<0 20:PRINT
  "Loaded."
7 END DEFine lodump
8 DEFine PROCedure dump
9 BEEP:OPEN #3,ser1:PRINT #3,"DUMPING SCREEN TO PRINTER:-":PRINT #3:CLOSE #3:CALL start,0,0,0,0,0,0,0,0,0
10 END DEFine dump
```

Conversion Routines on Spectrum by G Bottomley

These Hex to Decimal and Decimal to Hex Routines are not limited to any special length of Hex or Decimal number.

Hex to Decimal conversion is fairly easy since the length of the Hex string can be found using 'LEN H$'. The Dec to Hex conversion is more difficult since there is no similar function for the length of decimal numbers.

Logarithms are used to find the number of Base 16 'numbers' in the decimal number.

This would fail when the value of D was 0 since LN 0 is not possible. This is overcome by using the unusual action of the 'OR', as used by Sinclair.

This can be understood as – LN (D UNLESS D=0 THEN 1)

```
  10>INPUT "DEC D OR HEX H OR ST
OP S",I$: IF I$="D" THEN INPUT "
INPUT DEC ";D: PRINT "DEC/HEX ";
D;"D=";: GO SUB 9920: PRINT H$;"
H": GO TO 10
  20 IF I$="S" THEN STOP
  30 INPUT "INPUT HEX ";H$: PRIN
T "HEX/DEC ";H$;"H=";: GO SUB 990
0: PRINT "=";D;"D": GO TO 10
  40 STOP
9900 REM
     *HEX TO DEC CONVERSION*
   *INPUT IS H$*RETURN WITH D*
9910 LET D=0: FOR I=1 TO LEN H$:
 LET E=CODE H$(I)-48-7*(H$(I)>"9
")-32*(H$(I)>"£"): LET D=16*D+E:
 NEXT I: RETURN
9920 REM
     *DEC TO HEX CONVERSION*
   *INPUT IS D*RETURN WITH H$*
9930 LET H$="": FOR I=1 TO 1+INT
 (LN (D OR (D=0))/LN 16): LET C=
D-16*INT (D/16): LET H$=CHR$ (C+
48+7*(C>9))+H$: LET D=INT (D/16)
: NEXT I: RETURN
```



Christmas Hits

This week I'm giving my rundown on the best of the bewildering range of new releases out for Christmas. There seem to be more top quality games available for more machines than ever before and I apologise to anyone that is left out. I've tended to concentrate only on those that I have seen finished.

Thankfully game conversions are getting better, but remember that some releases are designed to exploit the features of a given machine and cannot be converted well. Unless you hear otherwise, I would advise you to treat conversions with suspicion.

Some releases are too late for inclusion here, and some are being delayed to get more individual attention after Christmas, I suspect that this includes the promised new Miner Willy game, so we may have another roundup when the dust has settled.

Platform games in general have become much less common but there are still outstanding ones around. US Gold's *Impossible Mission* for the Spectrum exceeds all reasonable expectations and shouldn't be missed. Another goodie is *Costa Capers* on Firebird's new Hot label. Amstrad/Commodore conversions of all Hot games can be expected. The best of the first releases is *Rasputin*, a *Knight Lore* derivative – a visual feast with a terrific atmosphere. Another brilliant 3D game is Gargoyle's *Sweevo's World* – again better, and much funnier, than *Knight Lore* and available for the same micros as the excellent *Marsport*, Spectrum and Amstrad.

Apart from *Costa Capers* there are plenty of other Firebird releases around, including the obligatory Spectrum *Elite*, out for the Amstrad in January, and anyone who wants a budget game would be mad not to go for their Super Silver range, especially *Chimera* and *Willow Pattern*. Mastertronic has just bought out an equivalent medium price range called MAD games and *The Last V8* for the Commodore is superb.

Durall has a couple of surprise new Spectrum games – both *Saboteur*, which is like a cross between *Impossible Mission* and *Exploding Fist*, and *Critical Mass*, a graphically superb 3D space game but one which may ultimately lack plot. Commodore, and eventually Amstrad versions are expected.

CRL's *Tau Ceti* is another Spectrum space game that has everyone raving, and coming slightly more down to earth no-one should miss *Tomahawk* from Digital Integration.

I hesitate to dismiss Micropower's *Doctor Who* (almost every micro) as a platform game, which it looks like, since it has something like five times more plot than the excellent *Castle Quest*.

There will probably be two new MikroGen games out when you read this, *Battle of the Planets* and *Three Weeks in Paradise*. Feelings about the latter depend on whether you are tired of the Wally gang, but the former looks very slick and both are better value than most games. *Sir Fred* is MicroGen's other new offering, pricey at £9.95 but brilliant. It plays like a funnier version of *Castle Quest*, the graphics are like Mordillo cartoons, animation is excellent, attribute clashes are restrained. Superb cartoon quality animation and humour can also be found in Microsphere's *Back to Skool* follow-up to *Skooldaze*.

The Commodore is currently dominated by US releases, and two platform games just out are *Goonies* and *Zorro*. More original American games include *Fight Night*, *Winter Games* and some of Ariolasoft's new destruction games. Indeed there are so many that we haven't begun to see them all. The most unusual must be Activision's *Little Computer People*.

Thankfully British companies can offer comparable quality for the machine. Don't miss the Commodore conversion of *Kova* when it appears. Also the Ultimate games, Daley's *Supertest*, *Monty on the Run* (brilliant music), *Wizardry*, Beyond's *Enigma Force*, and *Quake Minus One* on the new Monolith label all spring to mind. Beyond's *Spy vs Spy* is also just out for the Amstrad, an essential buy.

The Amstrad version of US Gold's *Bounty Bob* is adequate rather than inspired. It is also very hard, but does have most of the wacky features of the original. I prefer *Bruce Lee*, which should be looked on as a platform game with added Kung Fu rather than vice versa. Mirrorsoft's *Dynamite Dan* is also a good bet.

Bounty Bob from US Gold

Melbourne House's *Fighting Warrior* has been well implemented on the Amstrad, albeit perhaps their weakest game, and the super *Gyroscope* is of high quality on every version. I find this furiously addictive but some find it frustratingly hard. This and *Fist* are now released for the BBC.

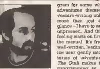
It's nice to see the BBC being included in the conversions circuit and Imagine has also just released *Hypersports* and *Yie Ar Kung Fu*. Choosing between the latter and *Fist* would make most people weep. If you really can't afford both then I tip *Fist* on the basis of the two player combat which adds enormously to the fun. The other top tip BBC game must be *Firetrack* from the ever excellent Aardvark. However, the Spectrum version of *Yie Ar Kung Fu* is too slow, too easy and with some breathtaking attribute problems when the fighter jumps. The excellent Amstrad version, however, has been converted with skill and respect for the machine that is far too rare.

The arcade game *Commando* has been released by Elite for BBC, Amstrad, Commodore and Spectrum. I've only seen the last two but they are very slick and great fun. Another very good Spectrum war game is *Panzadrome* from Ariolasoft.

Ocean's bumper Christmas includes *Knightrider*, *Transformers*, *Rambo*, *Street Hawk* and *Cosmic Wartoads* by Denton Designs. Not all are out at the time of writing but some look to be excellent. Something that isn't a game, or a thousand games in one, is the sprite and graphics utility *Laser Basic* from the authors of White Lightning, sold by Ocean's new IQ label. There will be a full review in a later Avenue but I promise you it is superb. It is out now for the Spectrum and Commodore.

Finally the big new thing this Christmas is compilation tapes. The choice from these must depend on whichever games you already have but my tips are the US Gold collection and Jeff Minter's *Yak's Progress*. *They Sold A Million* strikes me as a basis for a compilation guaranteed not to sell at all, but the Amstrad version contains games previously unreleased.

Tony Kendle



Strong incentive

You'll know by now that something called Christmas is just a few days away from us. It's a time when all the software houses work 24 hours a day trying to persuade us that *their* adventure is the best and you should buy no other.

Leaving aside the obvious blockbusters like *Lord of the Rings* (just about essential viewing, I would have thought), a program which should be at the very top of every Amstrad owner's 'please, please, please Santa' list is *The Graphic Adventure Creator* from Incentive Software.

Self-help

I've spent several weeks recently looking at some of the efforts produced with *The Quill* – I'm a great believer in self-help! – and of course that program is available for the Amstrad as well as the Spectrum, Commodore and so on. But the latest program from Incentive seems very much easier to use than Gilsoft's utility and will appeal to very many more people.

As its name suggests, the *Graphic Adventure Creator* (GAC) enables you to write graphic-with-text adventures without the need for an extra module as in *The Quill*. It comes on tape or disc and includes a comprehensive and rather chatty manual. Included with the main program is a small demonstration adventure to show the user what is attainable (and the graphics are pretty good, thus encouraging the user to have a go), as well as a 'start-you-off' file of commonly-used words to save you a little typing.

Having lived with the program for some while – like adventures themselves, adventure-writing utilities need more than just a cursory glance – I have to say that I am impressed. And this positive feeling starts on first opening the manual. It's friendly and well-written, leading the envious user gently into the mysteries of adventure-writing. *The Quill* makes the job of programming an adventure easier, but there is still much work to be done; *GAC* makes the whole process very easy to get started.

On power-up, the main menu is presented (once one has negotiated the dreaded Lenslok): this menu allows the editing of messages, nouns, verbs, room descriptions and graphics, as well as conditions, of which more later. The first job, however, is to write the adventure – this may seem like a contradiction, but any utility like this should be approached only after planning out the adventure on paper, so that a clear idea of what is required is fixed in the author's mind.

Now the room locations must be typed in, with descriptions, connections (to other rooms) and associated pictures. Then object descriptions along with their weights (although this need not necessarily play a role in the finished scenario, nevertheless, some number has to be entered), and then vocabulary to be recognised in the adventure, consisting of nouns, verbs and adverbs. Each of the words is given a number, and more than one word may be assigned to a number, thus saving the program a lot of work and allowing the player to type, for example, *Get*, *Take*, *Pick* and whatever else you decide some might think of in a particular situation.

Simplicity

Once all this data is typed in and edited if required, the pictures may be tackled. Like everything else in the *GAC*, this job is made as easy as possible for the user – not the most elaborate or sophisticated drawing utility, it is quite adequate for adventure illustrating, and contains routines for drawing boxes, rectangles, circles, ellipses and so on as well as a good *Fill* and an excellent *Shading* facility. Here, too, editing is simplicity itself, as the artist may step forward and back through the picture allowing for editing or deletion of certain parts while leaving the rest intact.

Finally, one picture may be merged with another, so that, like *The Quill*'s 'subroutines', common patterns can be placed in several pictures without the need for re-drawing. Colour handling, too is easy. With an on screen mini-menu, a colour bar-chart and a little pen which shows the current status of colour, shading, flash etc, this part of the *GAC* is delightful to use.

All that's left to do now is to define the conditions, without which the adventurer could merely walk around a static landscape – setting the conditions ensures that dragons will stomp on him, *unless* he has the dragonsbane, and that the door cannot be unlocked *unless* he has the wooden key of Thromdir. Local conditions are peculiar to a particular room (What are the exits? If there is a swamp here and the player is carrying more than a certain weight, he will sink without warning and so on).

'Pretty good' graphics with *GAC*

High priority conditions are scanned each time any input is made by the player (eg, is he now in the room with the orc, and has he got the necessary tinfence?), while low priority conditions are scanned on certain inputs (if *Out* is typed, then go into the end game routine).

And that's it! Well, almost – I haven't mentioned counters and markers. There are 255 of each of them, with counters being used to keep track of the number of times a certain action is performed (if the adventurer is in the dark, ensure that 20 moves without a light results in a cracked skull), while markers are either on or off (if the adventurer has switched on the light, then his skull is safe until he switches off again).

Conditions require a little thought, of course, and can be quite complex – assuming your number 7 verb is *Unlock*, your number 6 noun is *Door* and number 2 noun is *Key*, then a typical condition may be *If (Verb 7 And Noun 6 And CArr 2) Set 3 Mess 10*. This translates as, 'If the player has typed *Unlock Door* and he is carrying the key, then reset marker 3 and print message number 10 (*The door is now open*)'.

Extended version

It's really as simple as that, though a complex adventure may have a lot of complex conditions in order to work properly.

I haven't got room for more detail – rest assured that there are very few bad points. In the pipeline is a version to make full use of the extended memory of the 6128 (at the moment, 25K is available for your adventure) and full disc access during play. But for the moment, Incentive's *Graphic Adventure Creator* is reason enough to buy an Amstrad.


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All figures compiled by Gallup/Microscope

Top Twenty

1	(1)	Commando *(Spectrum/C64)*	**Elite**
2	(–)	Yie Ar Kung *(Spectrum/Amstrad/BBC/MSX)*	**Imagine**
3	(9)	Way Of The Exploding Fist *(Various)*	**Melbourne House**
4	(4)	Elite *(Spectrum/C64/BBC)*	**Firebird/Acornsoft**
5	(3)	They Sold A Million *(Spectrum/C64/Amstrad)*	**Hit Squad**
6	(–)	Mercenary *(C64/Atari)*	**Novagen**
7	(7)	Little Computer People *(Various)*	**Activision**
8	(5)	Rambo *(Spectrum/C64)*	**Ocean**
9	(–)	Lords Of The Rings *(Spectrum)*	**Melbourne House**
10	(6)	Computer Hits 10 *(Spectrum)*	**Beau Jolly**
11	(10)	Back To Skool *(Spectrum)*	**Microsphere**
12	(12)	Winter Games *(C64)*	**Epyx/US Gold**
13	(6)	Formula One Simulator *(Various)*	**Mastertronic**
14	(14)	Tomahawk *(Spectrum)*	**Digital Integration**
15	(11)	Finders Keepers *(Spectrum/C64/Amstrad)*	**Mastertronic**
16	(16)	Beach Head 2 *(Spectrum, C64, Amstrad)*	**Access/US Gold**
17	(–)	Transformers *(C64)*	**Ocean**
18	(19)	BMX Racers *(Spectrum/C64/C16)*	**Mastertronic**
19	(18)	Gyroscope *(Spectrum/C64/Amstrad)*	**Melbourne House**
20	(–)	Arcade Hall of Fame *(Various)*	**Various**

Figures compiled by Gallup/Microscope

Readers' Chart No 55

1	(8)	Commando *(Spectrum/C64)*	**Elite**
2	(1)	Elite *(Spectrum/C64/BBC)*	**Firebird/Acornsoft**
3	(5)	Winter Games *(C64)*	**Epyx/US Gold**
4	(2)	Way of the Exploding Fist *(Spectrum/C64/Amstrad)*	**Melbourne House**
5	(4)	Fairlight *(Spectum)*	**The Edge**
6	(7)	Red Moon *(Spectrum/C64/Amstrad/BBC/Electron)*	**Level 9**
7	(3)	Monty on the Run *(Spectrum/C64)*	**Gremlin Graphics**
8	(–)	Non Terraqueous *(Spectrum/Amstrad)*	**Mastertronic**
9	(10)	Bored of the Rings *(Spectrum/Amstrad)*	**Delta 4/Silversoft**
10	(–)	Back to Skool *(Spectrum)*	**Microsphere**

Winning Phrase No 55 "It's a fright when fairy lights explode or pop" from Terry Flood of Kidbrooke, London SE3. Honourable mentions to J Barnett of Camberley, Surrey with "Flying sleigh spotted at Heathrow" and Neil Brownlee of Galashiels with "So Lord of the Rings here at last"

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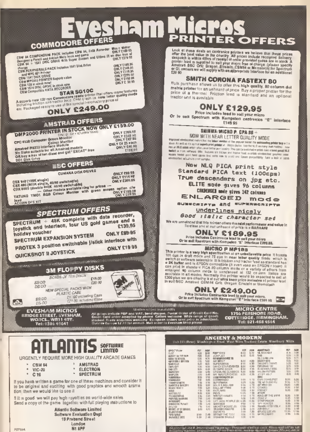
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ACCESSORIES


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Created entirely using a BBC and an AMX mouse

continued next week



New Releases

Pick of the week

ROLLER

Wild Ride is quite an entertaining game, which though lacking any great innovation or programming brilliance is nevertheless worth a quick mention.

It has you racing around a fairground rollercoaster seeking to harmlessly detonate bombs left there by a crazed bomber before they explode into a million pieces, leaving the roller coaster a mass of tangled wreckage

Obviously there are obstacles, these are variously titled Boppers, Flappers and Shox. Boppers are rover-like balloons that bounce around and get in the way, Flappers are birds that swoop down and try to peck you, Shox are electricity bolts that zip down the roller coaster tracks All over the place empty cars speed around, making life even more difficult.

It's very fast and quite entertaining, but credit should go to Interceptor for putting it out at £6 95, thereby proving that games don't have to be either £1 99 or £8 99 Plus points also for an ingenious loader that actually lets you play a simple little *Lunar Lander* game whilst the program is loading

Program *Wild Ride*
Price *£6 95*
Micro *Commodore 64*
Supplier *Interceptor Micros, Lindon House, The Green, Tadley, Hampshire*

SOPHISTICATED

WD Joss for the QL is a sort of instant Icon control device which lets you control basic QL functions via a joystick or keyboard cursor keys

Once loaded, it presets basic QL functions in the form of menus which you can move up and down with a cursor and select with the fire button. Thus, instead of typing a *Copy* command in full (a lot of key presses) you simply select the option on the menu to copy and then select the filename of the file to be copied.

The system is actually very sophisticated and includes features like a real time clock and a toolbox file that gives you a number of facilities for use when developing SuperBasic programs basically a number of options to do with line numbering and saving your program.

Program *WD Joss*
Price *£15 00*
Micro *QL*
Supplier *WD Software, Hilltop, St Mary, Jersey CI*

DESIGN SYSTEM

The Oxford Computing Art Studio is without doubt the best graphics for the Spectrum ever Not only does it have hundreds of features, it even manages to effectively remove those dreaded attribute problems It does this by the intelligent expedient of providing options to have shapes you have constructed automatically shifted to the nearest attribute square

Although icons have a slightly dubious image, particularly on home computers, as covering up with superficial slickness otherwise lacklustre programs, in this case they are an intrinsic as well as attractive feature

You can customise the program to work with either keyboard, joystick, or mouse in the same way that you might customise a Spectrum wordprocessor to work with a particular printer.

Instructions are expressed through icons, menus and windows – pointing a cursor at the appropriate choice How to summarise the facilities? You get all the usual stuff, circles, elipses, squares, rectangles, all drawn using the 'rubber band' system

The 'pen' may be of almost any width down to one pixel or may be used like an airbrush, 'spraying' pixels with the chosen ink colour. There are a vast number of text fonts which can be integrated with the design. Not only that, but you may use a simple user graphic system and define your own

So far so clever, but seen before However, anything you design you can manipulate Using a window to mark off an area of the screen the window area can be inverted, shrunk, enlarged and placed or replaced on any other area of the screen In fact the screen itself can be 'enlarged' so that you can very precisely tidy lines, etc

Art Studio really is a doddle to use and you don't have to be an artist to produce professional looking results Definitive.

Program *Art Studio*
Price *£14 95*
Micro *Spectrum*
Supplier *Rainbird, Upper St Martin's Lane, London*

This Week

Program	Type	Micro	Price	Supplier
Introducing Percent	Ed	Amstrad	£8	Mentor Edu
Introducing the Rec	Ed	Amstrad	£8	Mentor Edu
Spy Hunter	Arc	Atari 48K	£9 95	US Gold
Dr Who and Mines	Arc	BBC B	£19 95	Micro Power
Spider Speller	Ed	BBC B	£8 00	Vannin
Speech!	Ul	BBC B	£9 95	Superior
Souls of Darkon	Arc	Commodore 64	£8 90	Task Set
The Odyssey	Ad	Commodore 64	£9 95	Duckworth
Ballblazer	Arc	Commodore 64	£9 95	Activision
Diagon	Arc	Commodore 64	£2.95	Bug Byte
Mercenary	Arc	Commodore 64	£9 95	Novagen
Moebius	Arc	Commodore 64	£9 95	Infinite
Outlaws	Arc	Commodore 64	£9 95	Ultimate
Wild Ride	Arc	Commodore 64	£6 95	Interceptor
Yabba Dabba Doo!	Arc	Commodore 64	£7 95	Quicksilva
Micky s Space Ad	Ad	Commodore 64	£12.95	US Gold
Buster Block	Arc	MSX	£6 95	Kuma
Bridge	S	MSX	£9 95	Kuma
QL Pawn	Ad	QL	£19 95	Sinclair
QL Fictionary	Ed	QL	£12.95	Sinclair
QL Macro Assembler	Ul	QL	£59.95	Sinclair
WD Joss	Ul	QL	£15 00	WD Software
The Ludoid Quartet	Ad	Spectrum	£2.95	Bug Byte
Arena	Arc	Spectrum	£8 95	Argus Press
Bomber Bob	Arc	Spectrum	£2 95	Bug Byte
Death Wake	Arc	Spectrum	£7 95	Quicksilva

New Releases

REPETITIVE

Outlaws from Ultimate is a fairly entertaining game for the Commodore 64 I prefer it to *Imhotep* but to describe any Ultimate game as 'fairly entertaining' seems to me a pretty serious criticism.

The Brownie points the game deserves are that, to my knowledge, it isn't something that's been done to death before on micros (although I seem to have seen something similar in the arcades) and the animated graphics are rather well done It is, however, a fairly repetitive bang bang bang kill kill kill affair with little long term attraction

You, complete with white horse denoting goodness and purity, aim to rid a variety of towns barns, homesteads and deserts of a bench of outlaws who are doing the usual things outlaws do to the usual innocent citizens such things usually get done to. You can tell who the baddies are, not only because they tend to be rough-looking types, but also because their horses are black and less well animated.

The joystick controls horse and rider movements, left, right, jump, ducking when the odd bullet gets in your way and gun angle, in some cases they zoom towards you guns (as they do) blazing This becomes a little like a joust as you duck to dodge them whilst similarly returning fire

Later screens move to the town where innocent citizens wander unhelpfully about getting in the way; killing them only loses you a few bonus points, so I'd advise shooting them if they stroll into the line of fire.

The game is quite entertaining, addictive for around an hour and quite well programmed. Personally I don't think that's enough for £9 99, free tape cleaner or not.

Program *Outlaws*
Price *£9 95*
Micro *Commodore 64*
Supplier *Ultimate*
The Green
Ashby de la Zouch
Leicestershire
LE6 5JU

DALEK-SPEAK

Superior Software's *Speech!* is a quite remarkable piece of programming It gives you, without hardware, a speech utility more or less as good as Acorn's official speech chip, but has greater range

The program takes up 7¼K of program space and is incredibly easy to use. It merely requires a new command word which is *Say* preceded by a Star You then type in your text between quotes in conventional English (although the program is fussy about mistakes like double spaces) The end result is as good as anything I've heard this side of the Amiga and it'll make a stab at even the most ludicrous words constructed without vowels and at great length, EWWEGRETHEMHOHOOTEP particularly pleased me

It is possible to add words to the computer dictionary where they are not said exactly as they would be, using phoneme analysis and also to vary the pitch of the spoken voice You can also use the speech within a Basic program, using the *Say* command preceded by *OSCLI*.

The only problem with the program is the fact that it takes up quite a lot of memory should you wish to use it with your own, lengthy listings But it is possible to load the program at a different address should it be incompatible with your own machine code

A really superb release that allows everyone to play around with the wonders of Dalek-speak for relatively little outlay Why pay more?

Program *Speech*
Price *£9 95*
Micro *BBC*
Supplier *Superior Software*
Skinner Lane
Leeds 7

CORRUPTED

M Doc is a useful facility for Spectrum microdrive owners It lets you, with a fair wind and bit of luck, recover corrupted microdrive files and repair them. It will even work with things like *Tasword Two* files and has a 'filter data' option to remove corrupted characters so that the file can be edited

Assuming a program does appear using the Cat command, it can be analysed sector by sector using the program and a built-in monitor allows for the editing of hex, decimal or ASCII strings If you can repair your data you can then rewrite to another, undamaged section of cartridge.

An extra utility called *B Doc* lets you edit basic programs in the same way The program is fully compatible with all three versions of the interface 1 Rom, and for people who bought an earlier version of the program called *C-Doc*, there is a cheap (£2 50) upgrade option.

Program *M Doc*
Price *£6 95*
Micro *Spectrum*
Supplier *Seven Stars*
34 Squirrel Rise
Marlow
Bucks
SL7 3PN

This Week

Dogsbody	Arc	Spectrum	£2.95	Bug Byte
Gladiator	Arc	Spectrum	£9.95	Domark
Myla Di'Kaich	Arc	Spectrum	£2.99	Global Software
Zoot	Arc	Spectrum	£2.95	Bug Byte
M-Doc	Ut	Spectrum	£6.95	Sven Stars
Oxford Art Studio	Ut	Spectrum	£14.95	Rainbird
Q Warrior	Arc	Vic20	£2.95	Bug Byte

Activision, 15 Harley House Marylebone Road London NW1 01-486 7588 **Argus Press,** Liberty House 222 Regent Street, London W1R 7DB 01-439 0666 **Bug Byte** Mulberry House Canning Place Liverpool L1 8JB 051 709 7071 **Domark** 204 Worple Road London SW20 8PN 01 947 5624 **Duckworth,** The Old Piano Factory 43 Gloucester Crescent, London NW1 7DY **Global Software** PO Box 67, London SW11 1BS 01-228 1360 **Infinite,** 73 Alcester Road Moseley Birmingham 13 **Interceptor,** Interceptor Micro's Lindon House The Green Tadley Hampshire 07356 71 **Kuma,** Kuma Computers 12 Horseshoe Park Pangbourne, RG8 7JW. 07357 4335 **Mentor Educat.,** Trim Co Meath Ireland 046 31266 **Micro Power,** Northwood House North Street Leeds LS7 2AA 0532 434006 **Novagen,** Freepost 142 Alcester Road Birmingham B13 8HS **Quicksilva,** Palmerston Park House 13 Palmerston Road Southampton Hampshire SO1 1LL 0703 20169 **Rainbird,** Wellington House Upper St. Martin s Lane London **Seven stars,** 15 Gloucester Avenue London NW1 7AU 01-485 7775 **Sinclair,** Stanhope Road Camberley Surrey GU15 3PS, 0276 685100 **Superior,** Regent House Skinner Lane Leeds, LS7 1AX 0532 459453 **Test Set,** 13 High Street Bridlington YO16 4PR 0262 673798 **US Gold** US Gold Unit 10 The Parkway Industrial Centre Heneage Street Birmingham B7 4LY 021 359 3020 **Ultimate,** Ultimate Play the Game, Ashby de la Zouch Leicester, LE6 5JV 0530 411485 **Vanoin,** 133 Boroughbridge Road York, YO2 6AA. **Wd Software,** Hilltop St Mary Jersey, Channel Islands 0534 81392

NINETEEN EIGHTY-FOUR
GEORGE ORWELL

Language barrier

Orwellian hysteria having lately calmed down after passing through the dreaded 1984, popular opinion would have it that we have escaped most of Orwell's dire predictions. Popular opinion, of course, chose in the main to ignore the fact that Orwell was not setting down a cast-iron prognostication for a particular year.

However, those who laughingly pointed out the absence of all-seeing telescreens and the Thought Police could well be ignoring some grave and justifiable misgivings about Orwell's prediction about the gross misuse and distortion of language.

NewSpeak, as Orwell described it, alters the meaning of words. Some are employed which actually convey the reverse of that which is intended, and are expressed to be interpreted as polar opposites. Others are deliberately misleading, ambiguous and trap-laden from the unwary. We have to learn to understand the unsaid and interpret the actual messages being sent. It is a modern minefield, with euphemisms and acronyms abounding.

All professionals generate their own jargon. The initiated can bask within a wall of special speech which effectively keeps out the unwashed masses of the ignorant. Prospective joiners of the inner circles are also deterred by what is, effectively, a language barrier. Not only is the mystery of the craft to be learned, but the special accompanying language assimilated. For most, the sheer effort becomes too great. Within the confines there is ease and leisurely discourse but nobody else can join in. Watch that group of computer enthusiasts and monitor their speech patterns. We are forever finding ways of non-communication with one another.

We can use these new words and phrases to obscure the severity of action or the depth of the occurrence. Thus the policeman going to a riot where there are stone flying, bottles hurled and sheer pandemonium will describe his appearance as attending a disturbance, President Reagan talks about his 'misspeaks,' and the fire officer fighting a blazing inferno will record what happened as a 'four-appliance stop'. These perhaps are fairly innocuous but they mislead, as also does the estate agent who describes a piece of scrub land as 'lightly wooded', a bit of grass as 'laid to lawn' and a hovel as 'a bijou property'.

People in the computer world are real offenders. One does not switch on the apparatus but 'power up' and the instructions are never in action at once but are 'booted'. The machine is not easy to use but becomes 'user friendly'. Even the inert mass of junk called the hardware does not occupy a defined space upon the desk but must have a 'footprint'. We employ words like 'return', 'deliver' and 'debug' in strained usage and do so recursively. We talk glibly, uncaring about the listener, on Rom, Ram, ULA and Ascii. Using numbers, we confuse ourselves. Who knows the value of the prefix mega- or giga- and which is bigger? Who has not overheard the heated arguments on the relative merits of the Z80A over the 6502? Whatever became of the 6809 and how can there possibly be an intelligent conversation concerning the superiority of the 8086 over the 8088.

Recognise the dynamism of language and do not expect it to fossilise. In doing so, try always to be understood. Speak English wherever possible. Notice that common agreement is enhanced by the effort at sharing our thoughts. It is diminished by shutting out the vast majority of people who cannot, or decline to, keep up with the jargon. Remember what happens to people fed with NewSpeak.

Rod Dawson

Puzzle No 186

Ever since history came to be recorded in the mid-European state of Pandemonia there have been two major disasters to befall the country. The first of these was the invasion by renegades in 1306, and, more recently the Great Plague.

A curious connection was discovered linking the dates of these two disasters. For example, it was found that in each case the date was also equal to the sum of the first digit raised to the first power, the second digit to the second power, the third digit to the third power, and the fourth digit to the fourth power:

$1^1 + 3^2 + 0^3 + 6^4 = 1306$

Likewise the date of the Great Plague also exhibits this strange property, and consequently such dates are regarded in Pandemonia as having special significance.

Can you determine the date of the Great Plague, and also advise the Pandemonians when *next* they should expect a major disaster?

Solution to Puzzle No 183

The field had sides of 24, 45 and 51 yards.

The problem requires us to find the sides of a right triangle having a perimeter of 120 yards in which each of the three sides measures an exact number of yards in length.

```
10 FOR A=1 TO 35
20 LET B=1
30 LET C=120-(A+B)
40 IF A*A+B*B=C*C THEN PRINTA;
   " ";B;" ";C
50 LET B=B+1
60 IF B<C THEN GOTO 30
70 NEXT A
```

The program uses two *FOR/NEXT* loops A and B to generate the legs of a triangle with integral sides. The hypotenuse (C) is found by subtracting the sum of A and B from 120 (the perimeter). If the square of C is also equal to the sum of the squares of A and B (ie the triangle contains a right-angle), the resulting values are printed.

Winner of Puzzle 183

The winner is the Rev Allan Bulk of Kingstanding, Birmingham, who will be receiving £10.

Rules

The closing date for Puzzle 186 is Jan 16.

The Hackers


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